UNIVERSITY
OF MICHIGAN

BULLETIN
OF THE
MEDICAL LIBRARY ASSOCIATION

VOLUME 41 NUMBER 4

October 1953

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The BULLETIN is published four times a year, in January, April, July, and October by the Medical Library Association. Subscription price a year: Domestic, $7.00; Foreign, $7.50. Single numbers are $1.75 each.

"Entered as second class matter November 21, 1949 at the Post Office at Baltimore, Maryland, under the Act of March 3, 1879."

Office of Publication—Mt. Royal and Guilford Aves., Baltimore 2, Md.

Communications for the editor, manuscripts, and books for review may also be addressed to Estelle Brodman, Editor, *Bulletin of the Medical Library Association*, or to Miss Anna E. Dougherty, Associate Editor, both at the Armed Forces Medical Library, Washington 25, D. C.

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PRINTED BY WAVERLY PRESS, INC., BALTIMORE 2, MD.

The Medical College Library, An Analysis of Administrative Relationships*

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LIBRARIANS do greatly concern themselves with the internal operation of the library. They strive mightily both to improve and to simplify the work of the order department, the make-up of the catalog card, the detailed procedures of the loan desk, the comprehensiveness of the reference department, and so on. This is all good! During the past hundred years our library resources have grown tremendously, and during its long life, now three-quarters of a century, the American Library Association, together with its many affiliated library groups, has contributed steadily to improvement in all these matters: to simpler descriptive cataloging, to easier inter-library loans, to the development of microfilm, microcard, and microprint, to the creation of union catalogs and regional services, to better buildings, to open-shelf reading rooms and stacks, to photographic devices for the registration and circulation desks, and to many other techniques of better management.

But sometimes, by ploughing the field thus deeply, we librarians may tend to lose sight of both the long-range view and the over-all view. Libraries exist to preserve the cultural heritage, to be sure, but perhaps even more so to make it available to the generation now alive and at work. In the interest of maximum effectiveness in giving library service, we must not lose sight of the fact that the overhead and lateral relationships of the library are also important. Fortunately the idea of personal possession in the management of libraries has for some time been giving way steadily to the concept of service. Pride of ownership is giving way to pride in cooperative arrangements, witness the New England Deposit Library, the Midwest Inter-library Center, the Denver Bibliographical Center, multicounty service contracts, specialization in subject matter among research libraries, and other developments of this kind.

Our immediate problem this evening is the administration of the medical college library. Our interest lies not so much in the internal administration of the medical college library as in its relationships to the rest of the medical college and also to the university library or the system of libraries.

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 16, 1953.

The internal administration of the library is important, to be sure. The processes of book selection, purchasing, cataloging, classification, housing, and interpretation, which describe the principal elements of librarianship in every school or college of the university, must be as well served in the College of Medicine as in the College of Arts and Sciences, the College of Law, or the College of Agriculture. One could extend the list of these elements considerably to include student and faculty relationships, publicity, personnel management, budget planning and execution, supervision of the physical plant, and so on. But these are the common problems of all college and university librarianship, in the central library and in each of the branch libraries.

Our problem might be stated from what we may presume to be the point of view of the Dean of the College of Medicine, or shall we say from what we have observed to be the point of view of the deans of some colleges of medicine. For the purpose of this discussion, let us say that his point of view is that the administration of the entire College of Medicine should come to a focus in his office and that all lines of authority and responsibility within the college should converge there, he in turn reporting only to the Chancellor or chief administrative officer of the University.

The dean to whom we make reference believes that his administrative authority should extend not only to the college faculty, the medical students, nurses, and other employees of the college hospital, and nurses in training, and to admissions to the college and to the hospital, to the curriculum, degrees, and other academic matters, but also to registration procedures, to purchasing and accounting, to physical plant maintenance and custodial care, and of course to librarians and library service. His interest in such an extension of administrative authority is based upon a concept of over-all integration and efficiency. No college dean in these days, faced as he is with a multiplicity of complex educational and administrative problems, can indulge in a mere play for authority for its own sake. The dean's interest in a good educational program is sincerely well-motivated and his belief that his authority must be all-embracing is, I trust, altruistic though perhaps idealistic.

The problem can be restated from the point of view of the Chancellor's office, or the President's office if that happens to be his title. In this case the answer comes out somewhat differently than it did in the point of view of the Dean's office. The Chancellor naturally expects each of his college deans to govern his college faculty in all matters pertaining to the academic program. This matter of academic program is interpreted quite broadly and the Dean's interests easily extend into many other internal administrative matters as well as into external relationships with the constituency of the college, its alumni, the profession which it may serve, the press, sources of financial support, professional associations, accrediting associations, and a multitude of other "opportunities and sources of inspiration." Many of these contacts also concern the Chancellor and his Dean of Faculties or other administrative assistants, and

for advice and direction the Chancellor may turn to his deans individually, or collectively in the Council of Deans.

In a university, however, there are many administrative responsibilities which do not so logically come to a focus in the office of each dean of a professional college. In the area of academic policy, for example, one might mention the responsibilities of the Graduate College which commonly has a dean and administrative staff of its own and draws its faculty from the faculties of the several other colleges.

In the area of operations one might consider, for example, the physical plant. In a university consisting of ten colleges, can you conceive of ten separate staffs of janitors or building custodians, each staff responsible to its own foreman and each foreman responsible, not to a chief of building custodians or to a director of buildings and grounds, but to the dean of a college? Would each of the ten groups of janitors bargain separately, each with its own dean, over such matters as hours of work, rates of pay, employment benefits such as sick leaves and retirement pensions, not to mention supplies and equipment for janitorial work? If these matters are to be generally administered, they must head up somewhere else than in the offices of ten separate college deans.

The recruiting, employing, and general governing of all office help, commonly referred to as the clerical group, or the classified service, offers another case in point. In an organization as large as our hypothetical university with ten colleges, is the clerical staff of several hundred employees to be hired, paid, and otherwise generally governed by a standardized body of practice brought to a focus in a personnel office, or governed separately and without coordination among them in the offices of the ten college deans? In a time of scarcity of competent help in this class of employment, the expense of competitive bidding for such services among the several colleges and the ill will thus created among the several competing employers would be hard to measure and difficult to endure.

These illustrations of the value of centralized services could be multiplied many times over. In the interest of efficiency there are many operations essential to all the colleges, the primary responsibility for which the deans are well advised to be rid of, and in most cases probably glad to be rid of. If our ten colleges are all on one campus, they will presumably be served by one power plant for heating and air-conditioning, by one shop for carpenters and electricians, by one centrally housed and administered fleet of automobiles, by one staff of gardeners and grounds men, by one centrally administered crew of custodians and maintenance engineers, by one central office of registration and records, by one dean of men and one dean of women, by one admissions office, by one graduate college, by one central accounting office, by one purchasing office, by one business manager, and inevitably by one system of libraries under the management of a director of libraries.

Let us, then, reexamine some of the proper functions of a college dean and of

a director of libraries and then let us look into the management of the library, as administered by the director to serve the educational aims of the college.

In statutory terms, the dean of a college shall be the presiding officer of its faculty and the chief adviser of the Chancellor in regard to its welfare. He shall be in general charge under the Chancellor of the administrative work of the college. He shall submit recommendations as to the budget and the apportionment for his college. All requisitions chargeable to funds apportioned to his college shall be approved by the dean, with the provision that he may authorize department heads to approve requisitions for their departments. The dean shall submit recommendations to the Chancellor concerning the appointment, promotion, demotion, transfer, or removal of members of his college staff. He shall prepare and submit all reports concerning his college called for by the Chancellor or by the Board of Regents.

Under the administrative leadership of the dean of the college and subject, of course, to the Board of Regents, the immediate government of each college shall be by its own faculty. Such powers shall include the laying down of admission requirements, the adoption of courses of study, the prescription of textbooks, the adoption of attendance rules, the laying down of requirements for graduation, the recommendation of candidates therefor, and the discipline of students for conduct solely affecting the college. It is provided, however, that no new curriculum shall be adopted without the approval of the Board of Regents and that all changes made by college faculties in requirements for admission or graduation and in courses of study shall be approved by the Chancellor's office before such changes are published in the college catalog. It is further provided that college faculties may use committees of the University Senate or officers of general administration for the carrying out of policies they have adopted or duties that have been imposed upon the college, and the Chancellor may require such use when university convenience or necessity demands it.

In the interest of educational efficiency the Board of Regents may create departments of a college. The departmental staff shall normally consist of not less than three persons of the rank of instructor or above, who teach or do research work in the department. The departmental staff, by majority vote, shall determine the policies governing the department. Such policies concern courses of instruction, areas of study, staff appointments, demotions, and promotions, leaves of absence, general budget requests, and other matters not covered by general University regulations.

The chairman of the department shall be appointed by the dean of the college and confirmed by the Board of Regents. Among other duties he shall administer the general activities of the department within the policies adopted by the faculty. He shall call staff meetings, maintain records of such meetings, requisition supplies, arrange teaching assignments, assign class rooms, and report to the staff upon staff appointments, promotions, and budget proposals.

These by-laws defining the principal internal authorities and responsibilities of deans and departmental chairmen and of the faculty of the college are those governing the institution with which I am at present most familiar. This institution can be taken, I trust, to be a more or less typical state university with a student body of about average or medium size. These by-laws mention by name and define fairly clearly the internal administrative concerns of the dean and his college faculty, including especially those matters which are of purely academic import.

For the sake of sharp and clear contrast with those academic concerns which are properly a primary responsibility of deans, departmental chairmen, and faculty, let us look briefly at the Business Manager of the University. The office of the Business Manager, or its equivalent under other names, is as essential to the daily operation of the institution as is the existence of the physical plant itself. His responsibilities, with commensurate authority, underlie the work of all departments or agencies of teaching and research and his services are indispensable to deans, departmental chairmen, faculties, student body, and all other members of the university community.

Again in statutory terms, the Business Manager shall be in charge of the operation of the physical plant of the University, consisting of the buildings and grounds, the heating and power plants. He shall be the custodian of all buildings, grounds, and equipment. He shall have general charge of the upkeep and repair of buildings and equipment, and of the preparation of plans for improvements and construction authorized by the Board of Regents.

The Business Manager shall be in charge of the business operation of dining halls, dormitories, student textbook stores, the stenographic bureau, the print shop, university stores and supply departments, and all other business or commercial activities of the University. He shall be responsible for the appointment of and be in charge of all non-academic and non-administrative employees.

No purchase of supplies, equipment, or other chattel property shall be made by or in the name of the University except upon an order signed by the Business Manager or his duly authorized agent; nor shall any sales or exchanges of supplies and equipment or other property be made except through him. It shall be the duty of the Business Manager not only to make purchases at the best possible prices, but also to consider the advisability of making the purchases requested. It should be noted, however, that the Director of Libraries and not the Business Manager shall pass upon the reasonableness of the price and the advisability of making purchases of books and other publications, library equipment, and supplies. The Business Manager, too, shall keep an inventory of all chattel property of the University, except library books.

In this complex of departments, schools, and colleges, of chairmen and deans, of general administrative officers such as the Chancellor and the Business Manager, all comprising the University, what is the University Library and just what is the job of the Director of Libraries? Once more in statutory

terms, we find that all collections of books purchased or owned by the University, including those housed in separate libraries as described below, shall be a part of the University Library and under the supervision of the Director of University Libraries. Subject to the approval of the Board of Regents, separate libraries may be maintained by schools or colleges whose graduates are required to be licensed by a state board or court to practice.

The Director of University Libraries shall have the supervision of the University Library. He shall prescribe the regulations for the government of the same and of all departmental libraries and reading rooms. He shall be *ex officio* a member of the University Senate. The Senate's Committee on University Libraries shall serve as an advisory and policy formulating body for the University Library.

The University Library shall be upon independent apportionment. All requisitions for books or other publications, equipment, and supplies for the University Library, must be signed by the Director. Where any such purchases are to be paid for out of departmental or special fund, the requisition must be submitted to him for his approval.

If one may think of the colleges as vertical units in an organization chart, each unit consisting of the various groups of academic, secretarial, and other employees immediately subordinate to a dean, one may also think of the several service departments as cutting horizontally across all of the colleges, each with its own group of employees immediately subordinate to a director. Just as the responsibilities of each dean are considerable and must be accompanied with commensurate authority, so are the responsibilities of each director considerable and they, too, must be accompanied with commensurate authority. How, then, is conflict to be avoided?

A good library is intimately related to the effectiveness of good teaching and research. How is a Director of Libraries, an independent administrative officer, to relate his recommendations for budget, for personnel, and for physical plant to the needs of the college so that student and faculty interests will be as well served as they could have been by the dean himself, or possibly even better served?

Two basic considerations must be borne in mind. First of all, the system of libraries comprises a service agency. Its whole operation is directed toward improving the teaching and research which is conducted in the colleges and in the other agencies of the university. Its own staff does not actually comprise a classroom faculty. Its students are those of the colleges, schools, and departments. The libraries exist, therefore, to serve others and all library operations must be motivated from this point of view.

Secondly, besides being an administrator *per se*, the Director of Libraries is a coordinative officer of administration. Inevitably, the recommendations of the several deans for books, periodicals, space, and staff for their libraries, if

each were completely in charge of his own college library, would greatly exceed the scope of the available budget. Somewhere these various needs must be reconciled, so that a concrete operating budget can be framed. If this over-all review and reconciliation of library service needs does not take place in the office of a Director of Libraries, it must take place elsewhere in the administrative group, and probably in the office of the Chancellor himself. If the Director of Libraries is in charge of all libraries in the system and accordingly must frame and recommend a budget for all of them, he must take the initial responsibility for weighing the needs of various departments and schools and colleges, and for seeing to it that a fair distribution of materials and services is made. This is not an easy task, but it is an important one and it must be accomplished somewhere along the line, preferably I should think in the office of a well-trained and widely experienced Director of Libraries.

It may be helpful at this point to cite the example of the University of Kansas. At least the citation is of interest. The new President of this University, a relatively young man, was elevated to this position from the deanship of the College of Medicine which is in Kansas City some twenty-five miles from the University campus in Lawrence. A few months ago he appointed a new Director of Libraries for the University and very soon thereafter extended the latter's responsibilities to include the College of Medicine Library. This able young executive, the new President, very quickly saw the desirability of being able to seek advice and direction about the development of all university libraries from one competent Director of Libraries instead of having to gather it from a variety of more or less official sources in the offices of the various deans and committee chairmen.

Traditionally, colleges of medicine and of law have tended to view themselves as something apart from the rest of the University. Their autonomies extend back to the thirteenth century, to the origins of the modern university in Italy and in France, and it is not surprising that their traditional separation has been successfully maintained in many respects. In some important ways, however, this isolationist viewpoint may not be an unmixed blessing. Medical students receive their pre-medical training in the basic sciences offered in the College of Arts and Sciences. Law students receive their pre-legal training in the basic social sciences likewise offered in the arts college. Close coordination of educational policy among these colleges is called for. Good library service is intimately related to the educational program and if the interests of all groups are to be served well, close coordination involving the library is likewise called for.

In the light of the previous discussion in this paper of the various complex functions which make up a modern American university and of the partial enumeration of the administrative officers who must head up these various functions, it must be apparent by now that much of what is commonly regarded as administration is really cooperation and coordination rather than

direction. A large measure of legislative authority in educational matters resides in the faculty of the college rather than in the Dean's office. Internally, as the chief administrative officer of the college, the Dean may operate to a large degree through councils and committees and through numerous informal conferences, rather than by directive. The Director of Libraries, too, will be bound into the same channels of communication and by the same customary procedures. Although practice varies in principle and in detail of application from one institution to another, it may be helpful here to examine a hypothetical case study of library administration and to hope that the example, if it is enlightened, can be given wide credence even though at the moment it may not be wholly typical.

This case study describes a university of several colleges, devoted to the liberal arts, to law, to engineering, to medicine, to business administration, to the training of teachers, and so on. The larger enrolments are in liberal arts, agriculture, engineering, teacher training, and business administration, but intensive training programs for smaller groups of students are available in medicine, in dentistry, in law, and in pharmacy, as well as in journalism, social work, and nursing. The Graduate College of this university, typically I presume, draws its faculty from all the other colleges and supervises training for master's degrees and doctorates of philosophy. Strictly professional degrees are governed by the faculties of the professional colleges.

The Director of Libraries is responsible to the Chancellor and to the Dean of Faculties for library service throughout the University. The University Library has already been described as consisting of all books, periodicals, and other printed materials owned by the University or any of its subdivisions, whether acquired by purchase, gift, or exchange. The Director of Libraries is charged with the supervision of the University Library as defined. He must hire and assign all library employees, including those in charge of branch libraries; he must submit an operating budget and administer the budget that is approved; he must prescribe the rules and regulations which govern the libraries and their use and he has commensurate authority to do so; he must advise the Chancellor on all matters pertaining to the effective maintenance and improvement of the libraries, their collections, and services.

How shall he go about this large assignment? In the first place it should be noted that he has direct access to the Chancellor and to his Dean of Faculties as his superior administrative officers. He is a member of the Chancellor's Administrative Council which consists of the deans and directors of the University. And he enjoys the advice and support of a faculty committee, which in this instance is a committee of the University Senate and is responsible to that body. Its membership consists of one representative from each of the nine undergraduate or professional colleges, these representatives being appointed by the Chancellor from names submitted to him by the Committee on

Committees. In addition, there are three members at large elected by the Senate. Terms of office are for six years and are staggered to provide two new committee members each year. The committee meets perhaps on the average of once a month throughout the school year.

This Senate Committee is widely representative. It does not have administrative authority over the Director of Libraries or his staff, but its advice and direction can carry great weight with the faculties of the University, and the Director refers many matters of library policy to it and listens attentively to its counsel. It goes without saying, of course, that the colleges of law and of medicine are well represented on this committee.

It is not uncommon practice in colleges and universities to have the book funds allocated to the various departments, schools, and colleges by the faculty library committee or by the Senate's Committee on University Libraries just described. In the instance of the hypothetical university which we are describing, however, this is not the case. In this institution the dean of each college is solicited well in advance of budget making time for his advice as to the probable needs of his departments of teaching and research with respect to book and periodical funds for the year or for the biennium ahead. This is a two-way exchange of information in which the Director of Libraries describes the present program and its costs and his view of needed improvements and the Dean of the College supplies information which he gets from his departmental chairmen and administrative committees relative to library needs. This two-way exchange of information can anticipate new appointments to the faculty, new courses of instruction, new research projects, and the need for strengthening the present program in a way that transcends other means of gathering this information, because the dean of the college is usually in a strategic position to know the facts about such matters.

From such a two-way exchange of information and advice by letter and by personal conversation, the Director of Libraries is able to compile a composite picture of library needs for all the colleges. To this he adds recommendations of a more general sort for library books and periodicals, that is for books of general interest, for reference works, for back files of journals, for buying in the secondhand book market, and so on. Out of all this, and in some detail, comes the composite book and periodical budget which he presents to the Chancellor.

Requests for library funds from the several deans are reviewed effectively by the Director of Libraries and again, up the line, by the Dean of Faculties or by the Chancellor himself. If any part of the library acquisition program seems to be out of line with the general educational policy of the institution, it can easily be corrected in this process of review.

The central university library building serves a majority of the faculty and student body, but there are separate major branch libraries for the Colleges of Medicine, Law, and Agriculture, as well as smaller branch libraries for some

of the descriptive and laboratory sciences, chemistry, for example, and geology, botany, and zoology. The College of Medicine, like the Colleges of Law and of Agriculture, has its own faculty library committee, one member of which, sometimes the chairman, is usually a member of the University Senate's Committee on University Libraries. This College Committee meets fairly often to deliberate matters of library policy and service and to select books and periodicals for the Library. The Librarian is a member of the Committee and participates fully; in fact the Librarian finds this Committee an extremely valuable ally. The Director of Libraries, on the other hand, does not concern himself with the selection of books and periodicals for the college library. He expects the college librarian to take a position of leadership in this task. His own interest in book selection, aside from developing programs and policies of book selection and in taking a hand in securing important collections, sets, and reference works, is directed toward securing sufficient funds so that the work of the librarians and their committees can go forward unhindered. Book selection thrives best under the combined expertness of the college librarian, faculty representatives on the college library committee, and departmental chairmen.

There are thus two layers of faculty committees. The University Senate's Committee on University Libraries gives representation to all the colleges and to all broad areas of subject matter as well as concern for both graduate and undergraduate instruction. Its deliberations concern matters of general policy, such as rules governing the lending of books, the establishment or elimination of branch libraries, the improvement of physical plant and equipment, the application of faculty rank to librarians, and so on. The college committees, on the other hand, concern themselves with the effective operation of the college library in its service to the teaching and research of the college. Book selection can be and frequently is one of the primary interests of the college committee. Guiding and strengthening the hand of the Librarian of the College in all sorts of library matters of local interest also becomes a primary function of the college committee.

In our examination of centralized administration of libraries in a hypothetical university, one important question remains. It is simply: how is such a system of libraries administered internally? Without going into detail in matters of library administration already familiar to all of you, the answer to this question can be briefly put, and here again the answer is found in councils and committees.

It has probably been abundantly clear to you that in describing a certain hypothetical university library administrative situation, I am drawing heavily upon material quite familiar to me through daily proximity. I am hopeful that the basic situation is sufficiently typical to justify presenting these practices in support of what I believe to be sound administrative theory. The

university library, or system of libraries, in our situation is organized in five divisions, each one headed up by a librarian selected for training in subject matter and in librarianship, for experience, and for personal qualifications suited to the job. These divisions concern the technical services, the public services, the humanities, the social studies, and the sciences. In a more traditional organization we might substitute administrative departments concerned with reference, circulation, periodicals, and reserve books, for those concerned with humanities, social studies, and sciences. These five divisions and their administrative heads have their home bases in the central library. These five librarians and the Director of Libraries comprise the "cabinet" and they meet frequently (as often as two or three times each week) to deliberate all sorts of matters. Nearly every problem of any significance in library management is submitted to the combined experience and good judgment of these several persons in group meeting. When one or two of the group step out because of illness or absence from the city or resignation, the group closes ranks and goes right on functioning in the interest of continuous and effective library administration. This group writes the library budget and executes the budget which is approved. This group is library management. On the average of at least twice a month, the "cabinet" is expanded by the addition of the librarians of the Colleges of Agriculture, Law, and Medicine. This expanded group comprises the "council" and it concerns itself with all sorts of matters of broad import, especially those which are system wide and concern the principal branch libraries as well as the divisions within the central library.

In this system of library administration there is a high degree of articulation between and among the various divisions and principal branches. Administration is not a secret process. It is interesting to note that almost no topic of library service comes up for discussion before the "cabinet" or "council" which does not immediately involve at least three or more of the individuals present and the units which they represent. It might be noted here that the smaller branch libraries, in chemistry, geology, botany, zoology, architecture, and music, for example, are attached for purposes of administration to the appropriate division, architecture and music to the Humanities Division, the Teachers College High School Library to the Social Studies Division, the small libraries in science to the Science and Technology Division.

In addition to the "cabinet" and "council" there are appropriate deliberative and legislative committees. The Public Service Committee, for example, under the leadership of the head of the Public Service Division, recently devoted several meetings to a rewriting of the library lending code before that document went on its way through the "council" and to the Senate's Committee on University Libraries. The Periodicals Committee reviews and approves or rejects all requests for additions to or deletions from the University Library's periodical subscription list. This committee's jurisdiction extends over the library

services of the nine colleges on the two Lincoln campuses and in an advisory capacity to the College of Medicine which is in Omaha. The Technical Service Committee has been concerning itself with a number of matters growing out of the development of simplified cataloging procedures, and the installation of a master central serial file and multiple order forms. Many other examples could be added; we haven't thus far even mentioned the Library Staff Association and its wide-ranging activities in promoting professional consciousness, staff education, orientation, in-service training, and the like.

Have you begun to ask what has all this got to do with the administration of the College of Medicine Library? The answer is simply this: We believe that in a University, a system of libraries centrally administered and organized through councils and committees to promote coordination and cooperation to a high degree, can provide library services to any or all of its faculty and student body which will greatly exceed the quality and quantity of such service in a group of libraries where such integration does not exist. Evidence seemingly in support of the theory appears on every hand. The morale of the staff is high. This is especially noticeable among the members of "council" where a high degree of close cooperation is steadily maintained. Problems of library service are solved easily among division heads who are brought regularly together for that purpose. Books and services flow back and forth between divisions with common interests. Duplications, rivalries, and unnecessary objections are kept at a minimum. And by no means the least of the accomplishments of such a system of administration is evident in the freedom the Director of Libraries enjoys from daily contact with a thousand necessary but minor problems. Book selection comes to a focus in the hands of the divisional librarians, in the humanities, the social studies, and the sciences, and of the librarians of the Colleges of Agriculture, Law, and Medicine. It is with these individuals that the faculty, in small appropriate groups, form close relationships. The same may be said of the problems of library service, whether they involve lectures to graduate students or the orientation of freshman, reading assignments and reserve books, or interlibrary loans.

The traditional autonomy of the Colleges of Medicine and Law, including their libraries with their separate complete establishments of ordering and cataloging, as well as separate book stocks and reading rooms, is no longer necessary to secure adequate book stock and good service. Speaking comparatively, it may even be quite harmful to good library service to isolate the library staffs of these two colleges from the professional comradeship of the rest of the library staff in the same university library system.

Your library objectives were clearly announced in the latest statement concerning the Library which is Section V of a description of the "Essentials of

an Acceptable Medical School," by the Council on Medical Education of the American Medical Association. It reads:

> A well-developed medical library which can be used conveniently and effectively by both students and faculty is an essential of a modern medical school. A trained librarian with experience in medical library work should be employed to supervise the operation and development of the library with the advice and assistance of an active committee of the faculty. The library should include the more modern reference books, the commonly used indexes, and serviceable card catalogues. The Library should receive regularly the leading medical periodicals, the current numbers of which should be readily accessible. Periodicals should be bound without delay. Adequate arrangements should be made by the librarian in cooperation with the faculty to instruct all students in the use of the library.

There is nothing here one could possibly disagree with: a well-developed library for convenient use; a trained librarian with experience; an active faculty committee; reference books, indexes, and card catalogs; medical periodicals conveniently available and promptly bound; and instruction in the use of the library. All of these are essential elements. The Council on Medical Education could easily have gone much farther. There is no mention of good lighting and ventilation in a reading room, or of a series of reading rooms adequate to accommodate a full quota of doctors, nurses, and students. There is no comment on the steady and inevitable growth of a medical library, and of the larger stack quarters which must steadily be made available. Recreational reading, too, is important to students, faculty, and hospital patients, and provision should be made for it on the medical college campus or nearby. Textbooks and monographs on medical and closely related scientific subjects are also important, but the core of the medical library is its collection of medical periodicals. New titles appear at frequent intervals and most of the old ones must be maintained complete and intact. The Director of Libraries, the Librarian of the College of Medicine, and the Dean of the College must pool their influence to make sure that appropriations are adequate to support the basic subscription list, to make reasonable additions to the book stock, to provide a suitable physical plant for the books, the staff, the students, and faculty. The Director of Libraries must see to it that the Librarian of the College is of high professional caliber and that his assistants are selected on the basis of appropriate training and experience. The Director of Libraries should be more able, one would think, to appraise competence in librarianship than the Dean of the medical college. In practical terms this means that the professional staff of the library must be on a level with the faculty and that it should in fact be integrated into the faculty. The Librarian should hold academic rank as a librarian, with all the privileges of that rank, and should also be appointed a member of the College of Medicine faculty with the privilege of attending and taking an active part in the meetings of the College faculty. His professional assistants should also enjoy the privileges and status of academic rank. For a comprehensive state-

ment of the principles governing the application of academic rank to librarians, I should like to refer you to my study of this subject as published in *College and Research Libraries* in 1951.[1]

We share common problems. You as medical college librarians and I as a Director of Libraries want to see medical college library service improved. You have a specific interest in the medical college library. I might almost call it a vested interest. I have an interest in all the libraries of the University. My interest in the medical college library must be shared with that of the law college, the agricultural college, and others. But medical education is important to the welfare of our people beyond all question. The medical college library must be well maintained. In general terms it will be well maintained. You need have no fear of that. In proportion to numbers of faculty and students involved, the medical college gets the lion's share of the University budget, and it will probably of necessity continue to do so.

There are, however, many tangible benefits in library service to be secured through close cooperation. Cooperation among medical college libraries has already been developed to a high degree. If this were not so, some of the hospitals of the Veterans Administration would be without library service. Library cooperation within the University has not been developed so consistently on all of our campuses and yet the benefits of such cooperation, both tangible and intangible, are numerous and important. I have tried here to describe the structural bases upon which such cooperation and coordination can rest and the administrative processes through which it can be developed. This philosophy of librarianship has been most helpful and effective at the University of Nebraska, in securing more staff members for the libraries, in attaining academic status and higher salaries, and in tripling funds for books, periodicals, and binding.

[1] Lundy, Frank A. Faculty rank for professional librarians. Coll. and Research Lib. 12: 11–19, 109–122, January and April, 1951.

Symposium on Use of Main Classification Schemes

Summary

By Ned Eig, *Librarian*

Medical Library, National Jewish Hospital
Denver, Colorado

SIX of the librarians in convention assembled at Salt Lake City presented their views along with some description of the classification schemes in operation in their particular libraries. All but one professed to be living in (more or less) sweet harmony with the systems to which they had been wedded. Here is what appears to be the essence of their declarations:

Army Medical Library Classification, preliminary edition, 1948, described and analyzed in some detail by a librarian who turned to it from the *Dewey Decimal Classification*, meets with her approval because of its applicability to all material in the collection, its simplicity and easy comprehensibility, its capacity for expansion and inclusion of newly developing or future fields, its logical organization, and its practical and easily read, written, and intelligible notation. Special advice is also offered those contemplating a change to this system.

Army Medical Library Classification, first edition, 1951, a revision of the above, originally chosen by a mammoth county hospital's medical library because of its apparent flexibility to adaptation to the library's needs, its great adequacy to future expansion, and its ability to keep pace with medical progress through constant revision undertaken by the Federally-supported agency which is its sponsor, has pleased these selectors highly. The logically developed schedules are flexible, well-indexed, easily adaptable to their needs, while the classification's physical format is attractive and readable, and leaves enough space for noting additions and changes. There have been criticisms of outdated terminology by psychiatrists, and the classing of other items in divisions or subdivisions not to the liking of anesthetists, radiologists, and surgeons —minor crises, seemingly.

Boston Medical Library Classification, seen from the angle of worker in a library of about eighty-five thousand volumes, is readily understood by catalogers unfamiliar with complications of medical terminology; is easily learned by users who find its arrangement well organized to meet their needs as readers taking material from open stacks; is expansive, simple, nevertheless allowing close classification; "meets remarkably well the criteria set" by Margaret

Mann for a classification system; and has met satisfactorily the requirements of the Mayo Clinic Library collection, although other medical classifications are referred to when "difficult" books are processed.

Cunningham Classification, discussed from the viewpoint of experience gained during its use at the University of Alabama Medical Center Library, is said to be founded on sound principles as set by Miss Mann; has notation easy to read and remember; has a subject arrangement advantageous for use in open stacks; can be adapted for use by small or large libraries; but is not recommended for a purely dental collection.

The *Dewey Decimal Classification*, used in a modified form by a medical school library of nearly ninety thousand bound volumes, is, after description of its workings by the librarian, adjudged to be of lesser utility to medical libraries than other schemes presently available.

The *Library of Congress Classification*, considered by its users in the medical school library of fifty-three thousand volumes which gives extensive service and has operated with it since 1919, seems to have served their purpose well because of its flexibility. The new Third Edition of *Class R* of the *LC Classification* system meets the need for basic revisions to make that class (Medicine) conform more closely to changes in existing knowledge; examples of such schedule revisions are presented.

Army Medical Library Classification

Preliminary Edition, 1948*

By Mrs. Elizabeth D. Marsh, *Librarian*

School of Medicine, University of Arkansas
Little Rock, Arkansas

This classification scheme was developed as the result of the recommendation made in the Survey Report on the Army Medical Library, published in 1944 under the sponsorship of the American Library Association and with the financial backing of the Rockefeller Foundation. This report recommended that the "Library be reclassified according to a modern scheme,"[1] and further stated that the best which could be devised should combine the notation of the Library of Congress with the basic plan of the Cunningham classification. Permission was to be sought for such a revision of the Library of Congress schedules for medicine. If the permission could not be obtained, a new scheme was to be devised utilizing these features.

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 17, 1953.

[1] Army Medical Library Classification. Preliminary Edition, 1948. Washington, D. C. 1949, xxv, 479 p. Preface, p.v., quoting: The National Medical Library, Report of a Survey of the Army Medical Library. Chicago, A. L. A., 1944, p. 75.

Accordingly, with the Rockefeller Foundation providing the necessary funds to carry out this recommendation, a Classification Committee, composed of representatives from the Survey Committee, the Library of Congress, and the Army Medical Library, was formed. The members of this committee were as follows: Mr. Keyes D. Metcalf, Dr. Andrew D. Osborn, Miss Janet Doe, Miss Mary Louise Marshall, from the Survey Committee; Mr. Herman Henkle and Mr. David J. Haykin, from the Library of Congress; Lt. Francis St. John and Miss Helen Norris, from the Army Medical Library. Later the following were added: Mrs. Sarah G. Mayer, from the Library of Congress; Mr. Wyllis E. Wright, Miss M. Ruth MacDonald, and Miss M. Irene Jones, from the Army Medical Library. Miss Mary Louise Marshall was chosen by Mr. Metcalf, chairman of both the Survey and Classification committees, for the task of compiling the new classification under the direction of the Committee.

The following consultants, Dr. Edward B. Krumbhaar, Lt. Col. Balduin Lucké, Dr. John F. Fulton, Mrs. Eileen R. Cunningham, and Miss Marjorie Darrach, were invited to attend the Committee's first meeting to discuss the plans for devising a suitable classification scheme for the Army Medical Library.

A group of the country's medical specialists also were invited to attend a meeting in Washington, and each was asked to prepare and bring a topical outline of his own subject, listing the closely related subjects and indicating within his own specialty the fields of greatest prospective development. This was done at the suggestion of Mr. Archibald MacLeish, Librarian of Congress, as a first step in the preparation of the contemplated classification.

The various specialist consultants believed that this new classification scheme, planned for the National Medical Library, should benefit from modern medical thought regarding subject grouping and development, and should incorporate the best technical library features providing for uniformity of mnemonics and future expansion without long and complicated notation. They recommended, therefore, a topographical scheme with a notation similar to that of the Library of Congress. This also would make the Library of Congress schedules available for the non-medical material.

Since it was found impractical to revise the existing Library of Congress schedules QM–QR and R according to this plan, the block of letters QS–QZ and W, undeveloped in the Library of Congress scheme, was assigned to the Army Medical Library for its use in preparing a classification system for its books on medicine and related sciences.

These schedules follow a logical arrangement by subject. Schemes for which either inadequate or no provision had been made previously, such as WN, Radiology, and WT, Geriatrics, have been included. Each schedule proceeds from the general to the specific.

In the schedules QS–QZ will be found the preclinical subjects of human anatomy, histology, embryology, physiology, biochemistry, pharmacology, bac-

teriology, parasitology, immunology, and pathology. It will be noted that QS, Anatomy, Histology, and Embryology, and QT, Physiology, are for the general aspects only; the anatomy or physiology of a specific anatomic structure, system, or region is classed with that structure, system, or region. For example, the anatomy and physiology of the nervous system is to be found under WL, the number used for the nervous system.

Biochemistry and Pharmacology, formerly included with Physiology, have been given separate schedules, QU and QV, respectively. Similarly, Bacteriology, QW, and Parasitology, QX, have also been given separate schedules, and are followed by the closely related and more recently developed subject, Immunology, QY.

Pathology, QZ, has been placed with the preclinical sciences, in line with the concept that it is a study of the nature of disease rather than of its clinical aspects. Clinical pathology and Laboratory diagnosis have been placed with WB in the section on Diagnosis. The pathology of a specific anatomic structure is to be found classed with that structure.

In the schedule W are located Medicine and Related Subjects, which follow the same logical arrangement from the general to the specific as other schedules. Thus, in the class W provision is made for such general material as medical education and research, medical ethics, medical economics, medical history and biography.

In WA, Public Health, provision is made for material on public health in general, public health laws and reports, preventive medicine, sanitation, industrial hygiene, etc. Schedule WB is devoted to the practice of medicine in general, and provides a place for general diagnosis and general therapeutics, as well as for medical geography and climatology. In WC provision is made for the diseases of the body as a whole, and the scheme follows the etiologic classification of the *Standard Nomenclature of Disease.*

The classes WD–WL deal with the body regions and systems, following a uniform plan of development for each anatomic structure, proceeding from the general to the specific, treating first the system as a whole, then the individual organs included in it.

In the schedules WM–WW, theoretical logic in grouping has been sacrificed in favor of practical usage, since these classes are arranged by the medical specialty rather than by the region or system. In the classes WN, Radiology, and WO, Surgery, is given the treatment of these subjects from the general aspect; the roentgenography or surgery of a specific organ or system is classed with that organ or system.

The classes WS, Pediatrics, and WT, Geriatrics, make more adequate provision than other schemes for these two age groups, especially the latter which is rapidly developing in importance. Schedules WX and WY are reserved for material on hospitals and nursing, respectively, thus bringing these two closely related fields together at the very end of the scheme.

The index, compiled by Miss Janet Doe, provides in one alphabet an excellent key to all of the medical schedules, and includes as well many terms from the Library of Congress schedules.

Among the special features of this classification is the incorporation of the etiologic classification of the *Standard Nomenclature of Disease*, which serves as a valuable guide to the classification of books on pathologic conditions and thereby provides a uniform arrangement throughout the schedules for all such material. This mnemonic feature forms part of Table R, the numbers −50 through −59 being reserved for this etiologic classification.

The use of floating tables to insure uniformity in notation and arrangement throughout the schedules for various types of material is another mnemonic feature which should be mentioned.

Table A thus provides uniformity in notation and arrangement for general types of material in each schedule by use of the numbers 1–32 for the same divisions throughout the classification. These numbers may be used terminally or as they are. With the number 11 signifying history, a history of surgery is classed in WO 11; similarly, a history of dermatology will be WE 800.11.

Table R provides not only uniformity but also groups together in logical order all material relating to the anatomy, physiology, diseases, and therapeutics of a specific anatomic structure. Thus, the anatomy of the brain will be WL 301, and the physiology will be WL 302. The numbers −40 through −42 provide for the diseases in general, examination, diagnosis and diagnostic methods, and pathology of a specific structure, e.g., WL 340, Brain diseases in general; WL 341, Examination, diagnosis, and diagnostic methods, such as electroencephalography; WL 342, Pathology of brain diseases. The numbers −43 through −49 are reserved for the manifestations of diseases and for conditions of mixed or varied etiology, e.g., WL 345 for apoplexy. As mentioned earlier, the numbers −50 through −59 are reserved for the etiologic classification of diseases. The last group of numbers in this table, −66 through −69, are reserved for therapeutics: thus WL 366 for material on general therapeutics of brain diseases, WL 367 for medical therapy, WL 368 for surgery of the brain, and WL 369 for other forms of therapy.

There are other tables and devices, such as Table D, for the decimal subdivision of material relating to a single pathologic condition, when the bulk of the collection makes such a separation of items of a varying nature desirable, as etiology and pathogenesis, prevention, therapy, etc. Cancer and tuberculosis are two subjects for which we have found this table most useful.

Similarly, Table M may be used for subdividing material from schools, hospitals, and other institutions; and Table T provides a means of subdivision of material relating to study and teaching, such as curriculum and methods. For geographic or regional subdivisions, the Tables H, J, K, and L may be used; or, if preferred, Table G, which was adapted from the Boggs and Lewis Area Classification by Miss Marshall.

The notation used in this classification follows that of the Library of Congress system, consisting of a combination of capital letters and numbers. It is a simple notation, only occasionally running to four digits. It is easy to copy, to explain, and to use.

Although this classification system was developed primarily for a large medical library, and especially for the Army Medical Library, it is adaptable to medium-sized and even to small libraries. In the following paragraphs it will be my purpose to show how it has been adapted to our needs. First, allow me to give a brief history and description of our Library.

From 1879 until 1913 the Medical School of the University of Arkansas existed without a central library, reference material being scattered throughout the various departments. In 1913 a gift of five hundred books and a modest appropriation stimulated the development of a library, for which space was provided in the west wing of the Old Capitol building. In the forty years of its existence the Library has grown from these five hundred books to nearly 26,000 bound volumes. Today, our Library serves not only its students, faculty, hospital interns, and residents, but also the medical profession of the state, county, and city, and, to a lesser extent, the allied professions and the lay public.

Due to the lack of adequate and qualified personnel, we are forced to confine ourselves to only the simplest reference and bibliographical services, consisting chiefly of verification of bibliographical data for interlibrary loans, compilation of short bibliographies on specially requested subjects (usually within the past three to five years), occasionally checking a bibliography for a paper being submitted for publication by one of our staff men, answering reference questions, and giving directional information regarding the Library's resources.

Our stacks are open, which necessitates some sort of instruction regarding the arrangement of the collection, further complicated by the fact that we are still in the process of reclassification. Only textbooks, monographs, reference sets, certain serial publications such as the Advances series, the Annual Reviews, and the year books are classified. The periodicals are arranged alphabetically by titles and are shelved separately from the classified books. Our special collections, if they may be so called, consist of a small historical group and another, known as the Langston Bookshelf, in which is included cultural and non-medical material by or about the medical profession.

Our Library's collection was originally classified by the Dewey Decimal system. Beginning in the early fall of 1949, we have been in the process of reclassifying to the *Army Medical Library Classification*, Preliminary edition, 1948, since the Dewey system was no longer considered adequate or desirable for the classification of medical material. At the time the reclassification was undertaken it was decided to reclassify the material from 1943 to date, except, however, for the earlier editions of a text or monograph, or the earlier volumes

of a set or series, which were reclassified at the same time as the later ones. All newly acquired material, regardless of imprint or copyright date, is put into the new classification.

If it were not essential for us to recatalog the whole collection, we could probably leave all the earlier material in the Dewey system, without creating too much confusion; but the catalog is in such bad shape that recataloging is an absolute necessity. We will, therefore, reclassify as we recatalog, eventually having the whole collection under the one classification system.

To avoid too much confusion we have divided our catalog into new and old, in addition to shelving separately the material reclassified in the Army Medical system from that still in the Dewey Decimal scheme. Thus, all the material which has been reclassified or classified by the Army Medical system will be found in the new catalog, while that still in the Dewey, awaiting reclassification, remains in the old catalog. This system has worked out fairly well with all concerned.

In adapting the classification to our needs, we found it necessary to make very few modifications. We are using the alternate scheme of WA 32–98 for the geographic arrangement of public documents, such as health reports, etc. Also, we are using Table G, for geographic and regional subdivisions, when indicated in the schedules, instead of Table L. Insofar as possible, we are attempting to follow medical library practice and not sacrifice usage for theory.

This classification scheme, though not a perfect one, has adhered to the criteria set forth for a good classification: 1) it is applicable to all material in a collection; 2) it is sufficiently simple as to be easily understood; 3) it is capable of expansion within each schedule, and certain areas have been left open, namely, WH, WQ, WR, and WZ, for the development of new subjects in the future; 4) its divisions and subdivisions are logical in development from the general to the specific; and 5) the notation is easy to read, write, and understand, as well as being practical in use as in theory.

Its outstanding characteristics and advantages may be summarized as follows: the incorporation of the etiologic classification of the *Standard Nomenclature of Disease*, the topographic arrangement, the use of floating tables to insure uniformity of notation for form divisions and other types of general material in each class, the comparatively short class marks, and the development of these schedules within the structure of the *Library of Congress Classification* system, thus making available for non-medical material the schedules of that system.

For those who are contemplating a change to this system, the following recommendations might be made: 1) choose an earlier date line to start, at least 15 years; 2) always keep usage in mind and do not sacrifice it to theory; and 3) do not undertake the task without adequate staff to help in the process.

Army Medical Library Classification 1st Edition, 1951*

By Mrs. Ella M. Crandall, *Librarian*
Medical Library, Los Angeles County General Hospital
Los Angeles, California

A brief survey which I recently made of early colonial libraries convinced me that book collections on the Eastern Seaboard generally were fathered by gentlemen of the cloth cooperating with college professors. However, adhering firmly to my belief in the democratic American spirit, I feel free to reveal that at the turn of the century in El Pueblo de Nuestra Señora La Reina de Los Angeles de Porciuncula, an alcoholic horse and buggy doctor left a few medical texts in the canteen of the village dispensary. Thus was born the Medical Library of the Los Angeles County Hospital. Cunningham's *Anatomy* was shelved with boxes of Whitman's samplers, while Osler's *Practice of Medicine* reposed alongside ladies' garters and plugs of chewing tobacco.

In 1913 the book collection was moved to a red brick building where it remained for two decades. The year 1933, which marked the nadir of the Great Depression, saw also the moving of the collection into the new $15,000,000 hospital building.

The Los Angeles County Hospital, we never fail to point out, is the largest hospital building under one roof in the world. To accommodate the 3,000 in-patients and the 2,000 out-patients every day, there is a professional staff of 146 residents, 136 interns, and 1154 attending men. The Hospital is also an educational institution and serves as a teaching center for medical students from the College of Medical Evangelists and the University of Southern California. Also, the Hospital conducts a school of nursing.

As might be expected, the professional staff members are primarily concerned with clinical investigation rather than pure research. Each day approximately 250 readers come to the Library for as many different reasons. The student scheduled to deliver his first baby comes in to review the latest approved methods for doing an episiotomy. The weary, overworked intern regards the Library as a welcome haven from ward duties and comes to read the *J.A.M.A.*, the *New England Journal of Medicine*, and the jokes in *Medical Economics*. The attending man we see most often immediately prior to the State medical meeting or regional society gatherings. In preparation for his paper he reviews hundreds of hospital charts and then comes to the Library to compare his findings with the reports in the literature. In my personal opinion, the residents are probably the most research-minded group and use our facilities most extensively.

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 17, 1953.

There is one further observation I should like to make about our patrons. It sometimes seems to me that by and large the physician, as a result of constant conditioning throughout his course, tends to require more assistance than, let us say, a college professor. I have pondered on the reason for this. Perhaps this is true because in the operating theater the surgeon grunts and the scrub nurse hands him a scalpel. On rounds, the renowned diagnostician heads a pilgrim band of residents, interns, medical students, and nurses, any one of whom counts it a privilege to carry the great man's stethoscope or sphygnomanometer. There appears to be a carry-over of this same attitude when the physician enters the library. Everywhere else he is the brilliant luminary around whom the lesser satellites revolve; why shouldn't this also be true in the library?

Recognizing that the physician's time is indeed valuable, our staff attempts to do everything short of illegal or immoral acts to comply with the patron's wishes. This is not done solely in a spirit of altruism and self-sacrifice. Off the record, we have found that it pays off wonderfully well in gifts and in cooperation with various Library projects.

Two years ago the library committee decided that something must be done about the arrangements of materials in the Library. With the exception of one group of rare books, the stacks are all open. However, reader dissatisfaction was rife, complaints were many, and some books were as difficult to locate as the elevator to the jail ward. Those of us on the staff and on the library committee spent a great deal of time in studying various schemes of classification, and at length it was decided to use the *Army Medical Library Classification*, first edition.[1] The staff regards this as no small victory on our part, for most of the committee members had originally been plugging for the Boston system. The choice of the *AML Classification* rested upon several factors: we felt that it would be more flexible in adapting to our needs, that it provided most adequately for future expansion, and that its sponsorship by a government agency insured its being constantly revised to keep pace with advances in medicine.

The transition was not uneventful. The first few weeks I used to think longingly of good old Dewey. Whatever its other faults, the Dewey schedules were easy to remember. The AML schedules, insofar as mnemonic devices are concerned, do not represent ultimate perfection. Nevertheless, the classification symbols are easy to read and simple to locate, although not too easy to explain to the uninitiated. However, familiarity is obviating this difficulty.

We have made only a few adaptations. Our journals we shelve alphabetically by title in a separate room. Monographs on the historical aspects of medicine, whether general or of a special subject, are classified together in WZ. The system has been planned so that it may be used in conjunction with the *L.C. Classification* schedules. We have not as yet made use of this provision but

[1] U. S. Army Medical Library. Classification. Medicine. Preclinical sciences, QS–QZ. Medicine and related subjects, W. 1st ed. Washington, 1951. 275 p.

still retain the Dewey classification for non-medical works. Our reason for this is that we have a large collection for patients. These books are classified according to Dewey, and we felt that the use of three classification schemes would be confusing to the reader and demand too much of the long-suffering cataloger.

As all of you know, the *AML Classification* is based on the Cunningham system of grouping materials under the organ affected. Chief exceptions are the infectious and systemic diseases which involve, to some degree, the entire body. This plan is exceptionally well suited to practitioners in the smaller specialities such as urology, proctology, and ophthalmology. These physicians quickly learn their classification symbol and find on the shelves practically everything related to their specialty.

Another advantage of the AML system is that it is constantly kept up-to-date—thus far, two lists of additions and changes have appeared—and the chances are that, unless the Russians explode an atomic bomb on the corner of 7th Street and Independence Avenue, this will continue to be true in the future.

For our part, we are highly pleased with the *Classification*. The schedules are logically developed and are flexible and easily adaptable to our needs. It is well indexed. The physical format of the *Classification* is attractive, readable, and leaves sufficient space for notations regarding additions and changes.

Remarkably few difficulties have arisen in regard to its use, but I shall mention one or two. Last year the hospital opened a new seven-story psychiatric unit which is apparently staffed by very progressive physicians. They feel that the classification for psychiatry does not accurately reflect the newer concepts of this specialty. Recent changes in nomenclature have not been incorporated, and the crew-cut residents delight in asserting that "neurasthenia" is of the same vintage as such terms as "flapper" and "flaming youth."

Monographs relating to the more general specialities, such as internal medicine, surgery, radiology, and pathology, are scattered throughout the Library and necessitate constant use of the card catalog. The anesthetists regard drugs as integral parts of their armamentarium and mildly grumble at finding such material within the pharmacologist's bailiwick.

There was some question as to the classification for items dealing with roentgen treatment of specific organs. Some of the surgeons have been perplexed with regard to the schedule for abdominal surgery and heart surgery. Various of the monographs here classified they feel might be appropriately listed with surgery instead of in gastrointestinal and heart schedules respectively. This view is especially supported by surgeons in this Hospital who have done much of the pioneer work in heart surgery. As for classifying monographs on surgery of the head and neck, we have obtained most satisfactory results by flipping nickels.

These foregoing lines merely point up minor difficulties which you are free

to regard as mere quibbling. All in all, we feel that the *AML Classification* is a most excellent one, which reflects the cooperative thinking and best efforts of the outstanding librarians and physicians in the country today.

In discussing any system of classification it is wise to bear in mind the unforgettable statement from MacAlister's familiar essay, "You can't classify a medical library without doing more harm than good. It is better to shelve the books chronologically and according to size."

*Boston Medical Library Classification**

By Catherine Kennedy, *Associate Librarian*

Mayo Clinic
Rochester, Minnesota

The invitation to appear on this symposium and to discuss the use of the *Boston Medical Library Classification* in the Mayo Clinic Library has led me to examine various other medical classifications and to review the theory and practice of classification of special collections. Furthermore, it has served as an impetus for me to survey the applications and adaptations of the Boston Classification in the Mayo Clinic Library and to evaluate the basic plan in the light of the twenty-five years it has been the instrument of classification in this Library.

In this paper it seems best to begin with a brief description of the material collected and uses of the Library and then to explain the use made of the classification.

The Mayo Clinic Library is a relatively young library. When it was initiated in 1907, the collection consisted of several shelves of books and a few journals. Growth was rapid. From 4,000 volumes in 1914 the total volumes have increased to 27,000 in 1930 and to approximately 85,000 volumes at present. More than 70 per cent of the total collection consists of bound periodicals.

This Library is a private library designed for the use of the physicians of the Mayo Clinic and fellows of the Mayo Foundation. It has been evolved to provide the essential materials for research and the practice of medicine. From its beginning, emphasis has been placed on the primary importance of periodical literature and today more than 1,900 journals are received currently. In 1924 Dr. W. J. Mayo (9) emphasized the importance of medical periodicals when he said: "The profession as a whole is keeping abreast of the times by means of medical journals, and these periodicals must be recognized as the greatest force in medical education." The Library has continued to operate in accord with this concept.

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 17, 1953.

Because there is no other medical library within a radius of ninety miles, the collection encompasses a wide range of reference materials on general subjects and on the medical sciences, and adequate coverage of the periphery subjects including chemistry, physics, veterinary medicine, and dentistry.

The potential reading population includes approximately 300 members of the staff of the Mayo Clinic and about 500 fellows of the Mayo Foundation. In addition, its facilities are available to the nonmedical staff, to students in training in the Clinic's courses in physical medicine, occupational therapy, and anesthesia, local physicians and dentists, graduate nurses and dietitians in the hospitals, students in the local schools of nursing, junior college students, and the staffs of the Rochester State Hospital and the local public health department. More than 400 visiting physicians register in the library annually. Patients have access to the Library only on the written request of their staff consultants for specific material.

Services available to the professional staff include circulation, reference, current subject bibliography from English journals on request, translation of foreign articles, inter-library loans, ordering of medical books, and the binding of books and journals.

Among its special collections are valuable old books housed in a Treasure Room, a collection of all theses of the Mayo Foundation, a Mayo Clinic collection consisting of the monographs by members of the staff, the *Proceedings of the Staff Meetings of the Mayo Clinic, Collected Papers of the Mayo Clinic and the Mayo Foundation,* and the collected reprints of the members of the staff. In the Science Room is a reference collection which is limited to the latest editions of books in the basic sciences. A Browsing Room of 1,300 volumes provides material on literature, art, biography, hobbies, history, and travel.

Books and periodicals housed in the Library are available on open shelves to all regular patrons. For the incidental user there are some restrictions; to these the Library's resources are available by call slip for reference use. Limited space has necessitated the housing of some of the older sets or early volumes of periodical sets and older textbooks and monographs temporarily in accessory areas. Page service makes these materials available to all on request.

From its organization until 1924, the entire collection of books and periodicals was classified according to the *Dewey Decimal Classification.* In 1925 reclassification according to the *Boston Medical Library Classification* was instituted for the book collection. The second edition of this scheme, revised in 1925, was the original classification consulted. Periodical volumes were separated from the book collection and cataloged very simply on cards by corporate entry for each variation in title. The shelving arrangement conforms to the alphabetical card file. By 1930 the reclassification of all books was completed. The Boston schedule has continued to be used and has met the requirements of classifying our collection according to the rather broad interpretations we have chosen to select for use in open stacks.

The *Boston Medical Library Classification* is well known to many members of this Association, and its editor, Mr. James F. Ballard, is one of our most highly respected members. In 1879 the scheme then in use at the Boston Medical Library was remodeled by James R. Chadwick and Elizabeth J. Collins according to a plan devised along the lines of the *Index Medicus*. It was expanded later by Mr. Ballard and thoroughly revised and elaborated to conform with modern advances in medicine. The schedule was printed in the BULLETIN in 1918 (1, 4). In 1925 the second edition (5), revised by Mr. Ballard, appeared. A third edition, also revised and amplified by Mr. Ballard, was printed in two parts; the numerical schedule appeared in 1944, and the alphabetical subject index in 1946 (6).

In 1921 this plan was adopted as the official classification scheme of the Medical Library Association, to be recommended for use in medical libraries, particularly in the organization of new libraries. In the "Minutes of the 24th meeting, June 6, 1921" is this statement (10):

> . . . it was voted to print the report of Mr. Ballard as a special number of the *Bulletin* together with the former classification, and to index it. The report was accepted unanimously.
>
> Mr. C. Perry Fisher then moved the adoption of the classification as a standard, to be recommended to medical libraries, particularly those in the process of formation. This was seconded by Col. Garrison and carried unanimously.

Mr. Ballard (2) has stated succinctly the purpose, scope, and arrangement of this classification in the foreword to the third edition published in 1944 as follows:

> In dealing with such a subject as medicine, with its many ramifications into other fields and its complicated and interlocking subjects, an elastic as well as a comprehensive scheme is necessary. The classification must be broad, as experience has taught us that great difficulty is encountered in assigning material to schedules with minute sub-divisions.
>
> In formulating the Boston Medical Library Classification, we have tried to look on medicine in its widest aspects and with a view of co-ordinating the various specialties into a scheme to bring related subjects together and all material on a subject into one division. We have attempted to refrain from any bias of an anatomical, physiological, pathological, clinical or surgical nature. In our latest revision we have carried out our ideas as far as practicable from an economic standpoint. If we could start all over again, we would make some few changes of a theoretical nature; in their present assignment these do not affect the practical working of our scheme.
>
> On referring to the classification it will be noted that section one comprises the general reference works, including the history of medicine and related subjects. Next in order will be found the sections dealing with the biological sciences; followed by medicine with its many subdivisions and specialties; science and sociology and the various periodical and serial sections. The classification is elastic and can be further sub-divided, or by using only the main divisions, can be adapted to a small collection . . .
>
> Everything relating to a system of organs or individual organs, whether of an anatomical, physiological, pathological, chemical or surgical aspect, is put in one place . . . The sections on the biological sciences, practice of medicine, pathology, bacteriology, therapeutics, surgery and pediatrics are of a general character.

The basic headings in the scheme are numbered from 1 through 42. Subdivisions are expressed by capital letters, further divisions by lower case letters.

The resulting notation is simple to learn, and the symbol is easily copied and filed. For example, we use 1F for history of medicine, 8B for classification of disease, 22N for dietetics, 22Nf for foods and beverages. To complete the call number, the first letter of the author's surname is placed beneath the classification.

Thus, for a book by Brown on the *History of Hygiene and Preventive Medicine*, the call number would be $\frac{32Ah}{B}$. Should there be other books on this subject by Black or Bond, they would precede Brown on the shelf. As the collection enlarges, we may find it advisable to add the second, or second and third letters of authors' names in order to make shelving easier.

In its practical application the Boston Classification is, first, readily understood by catalogers who are not familiar with the intricacies of medical terminology and, secondly, easily learned by the medical profession who find its arrangement well organized to meet its requirements for use in open stacks. The doctors on the staff soon learn where they will find the books to which they refer frequently. Cardiologists take a straight path to 15E, whereas pathologists find that the heading 8 contains their primary interests. Fellows in postgraduate training likewise have no difficulty in locating the subjects of their particular interest through the use of the catalog and outlines of the classification which are posted.

In our Library the major expansions and revisions have been made from the schedule of the second edition. A fair-sized collection of books on chemistry and physics made an expansion of those categories desirable. The 1925 edition of the Boston Classification placed chemistry in 36H and physics in 36J. These have been expanded for our use as follows:

36 H —General chemistry including history
36 Ha—Analytical chemistry; technical chemistry (include industrial chemistry)
36 Hi—Inorganic chemistry
36 Ho—Organic chemistry
36 Hp—Physical and theoretical chemistry
36 J —Physics——General, including history
36 Je —Electricity and magnetism (include radio and radioactivity)
36 Jh —Heat
36 Jl —Light (include physical optics)
36 Jm—Mechanics (include general and solids, liquids, gases)
36 Js —Sound
36 Jt —Theoretical and experimental physics (include biophysics)

Foreign language dictionaries became numerous and were more closely classified by letter to indicate their language, following the symbol for language

dictionaries. Thus, French dictionaries are classified as 1Ad-fr and Finnish dictionaries as 1Ad-fi.

Some of the divisions in heading 7, Clinical Medicine, were never adopted as scheduled. From its first application the scheme was revised so that 7J, Blood and Blood Serum, has not been used, but these subjects are classed in 14A, Blood, Lymphatics and Ductless Glands, Internal Secretions; likewise, 7R, Radioscopic Diagnosis, was put with 22W, Radiotherapy. More details of these expansions and revisions can be found in *A Handbook of Medical Library Practice* (8).

When the third edition of the *Boston Medical Library Classification* (6) was received in 1944, the major revisions were observed in headings 2, 5, and 36, and small additions were found throughout. Natural History (36A), Botany (36B), Agriculture (36C), and Vegetable Pathology (36D) had been moved from heading 36 to heading 2, Biology; Organic Chemistry was moved from 36H (actually 36Ho in our expansion) to heading 5, Physiological Chemistry, Metabolism and Nutrition. The entire schedule was studied and compared with the second edition, as we had corrected it to show our revisions and expansions. Some consideration was given to reclassifying our collection according to the revised third edition.

After further study of the blocks of material, their location, arrangement, extent of use, and the fact that our readers were accustomed to finding these subjects as shelved, we decided that we would make notations in ink in the third edition to indicate our established practices. In this way we can continue without reclassifying, yet we have present always before us the printed word which shows the delineation the compiler prefers. Possibly some changes may eventually be made which correspond with the revisions in the third edition. For the present, we are happy in using this adaptation since it enables us to make effective use of the subject index.

The purpose of a library classification is to bring like subjects together. Miss Margaret Mann (7) in 1943 indicated qualifications for any system of classification. The *Boston Medical Classification* is expansive and simple yet allows for close classification. It meets remarkably well the criteria set down by Miss Mann.

The major criticisms which are heard in the Mayo Clinic Library regarding its classification of books come from the Departments of Roentgen Diagnosis and Radiotherapy. The radiologists would like to find all aspects of roentgenology kept together. Since our adaptation of the schedule closely follows the concept that all material on an organ or system shall be kept in one place, books on the roentgenologic diagnosis of cancer of the stomach are classified as 16G and the general treatises on roentgen diagnosis and therapy are classified as 22W. The classification of surgical treatment of cancer of the stomach in 16G does not seem to distress the surgeons, although the general treatises on surgery are in 23A and surgical technique in 23L.

In retrospect, one can see that some parts of the original schedule could have been better organized to meet the requirements of a collection of modern medical literature. I wish to mention specifically the large groups of material assigned in heading 22 (Therapeutics, pharmacology, materia medica, and pharmacy). With the developments in drug therapy, physical medicine, and dietetics, this section is crowded. Could we have foreseen these and certain other expanded areas, our interpretations might have differed also.

In general, the *Boston Medical Library Classification* has met the requirements of our collection satisfactorily. It is well suited to a special medical collection which is independent of other subject collections. It is simple to learn and easy to use. Other medical classifications are referred to in the process of classifying the difficult books. We appreciate their many fine qualities and we shall continue to consult them to find our way when we need assistance in classifying the subject at hand.

Whatever classification is selected, it will be adapted by the library using it according to the peculiarities of the collection and the demands of the clientele using the library in so far as the classifier can satisfy these requirements. It is important for a library that the development of its classification be consistent. Taking stock of assignments for certain books sometimes leads to a minor job of reclassifying. Subjects not already contained in the classification should be carefully considered with respect to their place in the field of medical knowledge, as well as to their location in other schemes of classification. Consultation with specialists in the subject is sometimes advisable. From these combined resources, additions, expansions, and revisions may be worked out.

As long as a library can be used efficiently and with ease by its readers and the library staff, the adaptations of the classification schedule are of little concern. It behooves the classifier to classify logically and intelligently and to make expansions and revisions only after careful consultation and consideration. If these criteria are upheld, the fact that the classification varies from the development of the same schedule by another library or from subsequent editions published by the originators of the schedule, is not a matter of importance.

I believe that Mr. J. Christian Bay (3) made a very wise statement when he said,

> It is well to remember that classification is not a process by which a logical and scientifically correct and valid place for a book may be designated with reference to an accepted system of knowledge. There is no such system. There are many attempts at a logical or convenient arrangement of the conceptions and ideas, combinations and systems of specialties, most of which are in a state of incessant development . . .
>
> The classifier of books in a library therefore can concern himself only with determining the place where the reader of average ability will find it, or where the reference librarian will look for it; and in most cases these purposes are fulfilled . . .

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Dewey Decimal Classification at the University of Michigan Medical Library*

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The Medical Library of the University of Michigan has always been an integral part of the University library system and is still located in the General Library building. However, when the Medical Center, of which the University Hospital is the nucleus, is completed, the Medical Library will be housed in that part of the Campus.

The first books for the University Library were acquired in 1840 when Asa Gray, Professor of Natural History, was granted $5,000 with which to purchase books in Europe. The Medical School was established in 1850, and in

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 17, 1953.

1854 the first appropriation, the magnificent sum of sixty-six dollars, was made for the purchase of medical books. By 1871 sixty-one medical periodicals were being received regularly. Even then the greater part of the appropriation went for journals. In 1905 the Medical Library consisted of 13,455 volumes. At present it has over 89,000 bound volumes and receives currently about 1,000 serial publications.

The University of Michigan Medical Library serves the needs of the students and the teaching and research faculties of the University. Physicians of the community are welcome to use the Library, and materials are constantly being sent to other libraries through inter-library loan. The stacks are open to faculty members, graduate students, and senior medical students.

Two outstanding collections of early works in anatomy, surgery, internal medicine, and therapeutics have been given to the Library: the James Stephen Pilcher collection of more than four hundred volumes, including ten incunabula; and the LeRoy Crummer collection, consisting of over one thousand volumes and including thirty-seven incunabula. These collections are housed in the Rare Book Room of the General Library, and the books are arranged chronologically within each collection. We have also built up a sizeable collection of early works on fevers and infectious diseases to supplement the books which were given to the Medical Library many years ago by the late Dr. George Dock.

In the early years the University of Michigan Library, like most libraries, used a location number for shelving its books. When the *Dewey Decimal Classification* was adopted, the medical books were classified by subject, and the journals and other serial publications, exclusive of state health reports and bulletins, were arranged alphabetically and assigned one number (610.5).

Early in the nineteen-twenties it was decided to adopt the *Library of Congress Classification* for most of the holdings of the University of Michigan Library, and the gigantic task of reclassifying and recataloging was begun. However, the *Decimal Classification* was retained for literature and for the books in the Medical Library. The other special libraries on the Campus, such as Chemistry (which includes Pharmacy), Physics, Natural Science, and Public Health, use the *Library of Congress Classification*. For the Dentistry Library a special scheme, within the framework of the *Library of Congress Classification*, was developed and published in book form.

Revisions and expansions of the Dewey scheme were published from time to time in an attempt to keep the classification up-to-date. The last revised and enlarged edition, the 14th, appeared in 1942. In this edition some subjects were given numbers twelve digits in length, i.e., nine beyond the decimal point.

In 1951 the Standard (15th) Edition appeared.[1] As stated in the preface, "The guiding principle for this revision was adaption to the needs of the general

[1] Dewey, Melvil. Decimal Classification. Standard (15th) ed. Lake Placid, N. Y., Forest Press [1951] lv, 661 p.

library collection of up to 200,000 volumes, eliminating over-detailed expansions useful only to the special library or for very large collections." The point of view of the committee for this revision, of which Fremont Rider was a member, is expressed in his book, *Melvil Dewey*, when he says ". . . The more detailed a classification is made, the more quickly it tends to become obsolete . . . the more complex it is made, the more its original easily grasped simplicity becomes lost." The chief innovation in the Standard (15th) Edition Revised, published in 1952, is the detailed subject index.

The *Decimal Classification* as used in the University of Michigan Medical Library has been modified and abbreviated. Dewey, it will be remembered, assigned the 600's to the applied sciences and to medicine the subdivisions 610–619. All our books have been classified, no matter whether they are in the field of medicine proper or in the auxiliary sciences, within these numbers. Since there are many departmental libraries on the Campus, the Medical Library does not have many books in such fields as biology, chemistry, dentistry, or psychology. The books which we do acquire on these subjects can be classified in the 610's without much difficulty because we have always used a broad classification. For instance, biology is classed with physiology in 612, chemistry with biological chemistry in 612.01, psychology with physiology of the nervous system in 612.8.

In general, we have used only the larger subdivisions of the *Decimal Classification*. Class numbers are not more than five or six digits in length except where country subdivisions have been used for medical schools and for state public health reports and bulletins. The scheme for anatomy may be taken as an example of how we use the *Decimal Classification*. Eleven numbers are used instead of the twenty-five pages of numbers assigned to anatomy in the 14th edition. However, the 15th edition gives only four numbers to anatomy. We use the following scheme:

611	Anatomy, Histology, Microtechnique
611.012	Teratology
611.02	Anatomy for artists [This number was added by Michigan]
611.1	Circulatory system
611.2	Respiratory system
611.3	Digestive system
611.4	Glandular & lymphatic system
611.6	Genito-urinary system
611.7	Motor system
611.9	Regional and applied anatomy

The mnemonic pattern of the *Decimal Classification* is readily seen by turning from anatomy (611) to physiology (612) and pathology (616) where the subdivisions .1 to .8 are the same as those under anatomy.

Since a broad classification has always been used in our Library, in many

instances one number was adopted for a subject with many ramifications. For example, in 612.01, the number given to biological chemistry, are classed all books on enzymes, ferments, lipids, isotopic tracers, protein and carbohydrate chemistry, as well as general books on chemistry. All material on endocrinology, including hormones, special glands, and cortisone and ACTH is classed in 612.4. All books on bacteriology are in one number (616.01). One number (616.1) takes care of everything on heart disease, vascular diseases, electrocardiography, and blood transfusion. One number is used for each of the following subjects: obstetrics (618.1), gynecology (618.2), and pediatrics (618.9). (Surprisingly, perhaps, we rarely receive any complaints about the classification system.)

In the *Decimal Classification* the material on an organ or system is divided into four separate categories: anatomy, physiology, pathology, and surgery. In two instances we have departed from this scheme. Everything on the eye is classed in 617.7 and everything on the ear, nose, and throat in 617.8.

An example of the result of using an extremely broad classification is 616.8, the number used for pathology of the nervous system. Side by side on the shelves are books on psychiatry, epilepsy, infantile paralysis, brain tumors, cerebral palsy, aphasia, neurology, psychoanalysis, multiple sclerosis, psychopathology, and handwriting analysis. When the broad classification scheme was adopted, it was obviously not foreseen what a tremendous amount of material would be published on these subjects.

One of the advantages of using the *Dewey Decimal Classification* (not necessarily as we use it) is the ease with which it is learned, and even memorized, by staff and library patrons alike, particularly if not too detailed a classification is used. Another advantage is that the Library of Congress cards give the numbers of both the 14th and the Standard (15th) editions of the *Decimal Classification*. However, if a detailed classification is used, the call number becomes extremely long and difficult to copy accurately. On the other hand, when numbers are shortened, various subjects which are not too closely related are intermingled, as demonstrated above.

The workability of a system of classification depends to a large extent on the size of the collection and on the foreseeable growth thereof, and on the type of institution which the collection serves. If the primary function of a system is to aid one in locating a specific book in the collection, it would seem that any scheme serves that purpose, for library users become quickly accustomed to a scheme and readily find their material on the shelves. However, if a classification is wanted which will meet the needs of the highly-specialized medical profession and research workers, then it would seem that the *Decimal Classification* is not the most suitable because it widely separates the various aspects of an organ or system. Materials on the respiratory system are classed in 611.2 (anatomy), in 612.2 (physiology), in 616.2 (pathology), and in 617.42 (surgery).

With the many medical classification schemes available today, it would be unwise for a medical library to adopt the *Decimal Classification* without being fully aware of its shortcomings, which are apparent when one compares it with other schemes.

Library of Congress Classification with Emphasis on Edition 3, 1952 of *Class R; Medicine**

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and Mrs. Ora K. Goodman, *Catalog Librarian*
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This discussion on the *Library of Congress Classification* scheme is based on experience at the University of Oregon Medical School Library, where the *LC Classification* has been used since the organization of the Library in 1919. As of 1953 this Library contains 53,000 cataloged volumes of books and periodicals and receives more than 1,000 current periodicals. It serves the University of Oregon Medical School faculty of 60 full-time and 365 part-time individuals, 350 medical students, graduate students, medical technology students, and X-ray technology students, 133 undergraduate nurse students and 50 graduate nurse students, the interns and residents in the school hospitals and clinics and in other hospitals in the city. The Library is the official medical library for physicians in Oregon, a total of about 1,700 persons including those on the school faculty. Its service is extended to physicians anywhere in Washington, Idaho, Montana, and Alaska. It is open to all citizens in Oregon, and its clientele includes dentists, attorneys, public health workers, industrialists, teachers, students in colleges and high schools, and others. Reference and bibliographic services are offered and extensive use made of them. The stacks are open to readers. Students are taught the use of the catalog and stacks. They are urged to search for their reading material and to request aid unhesitatingly if they need it.

A succinct discussion on the *Library of Congress Classification* scheme is contained in the *Handbook of Medical Library Practice.*[1] The scheme covers all fields of knowledge, as befits its purpose as a guide to the classification of the immense and inclusive Library of Congress. Under this non-mnenomic system all knowledge is divided into classes, each of which is designated by a letter, with subclasses being assigned an additional letter and these in turn subdivided by the additional assignment of numbers. From the point of view of a

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 17, 1953.

[1] Marshall, Mary Louise and Jones, M. Irene. Classification. In: Handbook of Medical Library Practice. Chicago, A. L. A., 1943, p. 152–153.

medical library, the two most pertinent classes are Class Q (Science) and Class R (Medicine). At the University of Oregon Medical School, there is considerable use of Class H (Sociology), Class L (Education), and Subclass BF (Psychology). Other classes are used, but used sparingly. In order to keep the collection concentrated, it has seemed best, for the most part, to classify under the classes mentioned, material which might be placed elsewhere in a broad general collection. This procedure is based on the thought that the material is added to this Library because of its value in the specific fields covered by these classes.

Because of their importance to medical and allied scientific libraries, Classes Q and R will be discussed here.

CLASS Q (SCIENCE) The preface to the Fifth Edition, 1950, of this class states:[2] "The classification scheme for science was developed in the early 1900's and was tested before publication in 1905 by application to the books then on the shelves. In arranging the sequence of subjects, various published schemes of classification were consulted and used freely, notably the schedules of the International Catalogue of Scientific Literature." Succeeding editions incorporating changes and additions which use of the scheme dictated appeared in 1913, 1921, 1947, and 1950. The Fifth Edition, 1950, does not include any basic changes in the subclasses most applicable to a medical library; namely, QD (Chemistry), QM (Human Anatomy), QP (Physiology), and QR (Bacteriology) except that radiation chemistry has been given a place.

CLASS R (MEDICINE) The preface to the Third Edition, 1952,[3] states:

> The original schedules for Class R were prepared in 1904 by J. Christian Bay under the supervision of Charles Martel, then Chief Classifier. They were tested in actual use in connection with the reclassification of the medical works then in the library and were published in 1910, at which time Clarence W. Perley was in charge of the classification of medicine. The second edition followed in 1921 after the stock of the first was exhausted; it incorporated additions and changes made between 1910 and 1920. The additions and changes made after 1920 were not published until 1928 when the Library began to issue the quarterly L. C. Classification Additions and Changes.

In regard to the Third Edition, the preface states:

> The great strides made by the science of medicine since the First World War made it necessary to undertake a thorough revision in order to provide for recognized advances in the medical sciences, important new concepts and relationships, new therapeutic means and methods, changes in terminology, and a more acceptable classification of diseases . . . The revision was carried out by Mrs. Sarah G. Mayer, senior subject cataloger in science, in collaboration with medical specialists and librarians, notably Dr. Sanford V. Larkey of Johns Hopkins University, and under the supervision of the Chief and Assistant Chief of the Subject Cataloging Division. Main reliance for the classification and terminology of disease was

[2] U. S. Library of Congress. Subject Cataloging Division. Classification. Class Q; Science. 5th ed. Washington, 1950. vi, 215 p.

[3] U. S. Library of Congress. Subject Cataloging Division. Classification. Class R; Medicine. 3d ed. Washington, 1952. xiv, 240 p.

placed on the World Health Organization's "Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death," Sixth Edition, 1948.

Some examples of classification changes made in the schedule follow. These have come to our attention at the University of Oregon Medical School during the course of classifying books during the past six months and illustrate the extent and thoroughness of the revisions and how they coincide with the needs which have arisen in one library in a comparatively brief space of time. These changes are in the fields of:

Aviation Medicine which had no assigned space and which has been given space in Subclass RC (Internal Medicine) in RC1050–1099.

Diseases of Bone and of the Joints which had space only in Subclass RD (Surgery) and have, in addition, been given space in Subclass RC (Internal Medicine) in the new section on Diseases of the Musculoskeletal System.

Arthritis and Rheumatism which were in Subclass RC (Internal Medicine) in the section on Diseases due to Diathesis, Constitutional Diseases and have been placed in the same subclass but in the section on Diseases of the Musculoskeletal System.

Cancer of Specific Parts of the Body which was disassembled and classified with the diseases of the part of the body involved but which has been assembled in Subclass RC (Internal Medicine) in RC280 one of the numbers assigned to Neoplasms.

Diabetes which was in Subclass RC (Internal Medicine) in the section on Diseases of the Urinary Organs and which has been placed in the same subclass but in the section on Diseases of the Endocrine Organs.

Narcotic Habits and Drug Addiction which were in the Subclass RC (Internal Medicine) in the section on Diseases of the Nervous System and which have been placed in the same subclass but in the section on Neurology and Psychiatry devoted to Character, Behavior and Intelligence.

Psychosomatic Medicine which had no assigned space and which has been given space in Subclass RC (Internal Medicine) in RC49.

In general, some specific subjects which have undergone extensive revision are cancer, poliomyelitis, endocrinology, neurology and psychiatry, musculoskeletal system, and atomic, aviation, submarine, and Arctic medicine. All of these are in Subclass RC (Internal Medicine) which was revised more extensively than any of the other Subclasses.

These extensive revisions are welcomed but they pose a reclassification problem in any library. In a library where the classifier is the cataloger also, and in addition has other duties to perform, the problem assumes a worrisome aspect. To reclassify the entire collection would be ideal. At the University of Oregon Medical School, we wish we could, at least, reclassify all holdings in a field affected by the revisions when a new title in the field is added. To date, however, this desire has not been fulfilled, nor is it likely to be fulfilled in the near

future unless a budget assignment or gift for the purpose is received. The plan under which we are proceeding is to classify additions under the revised schedule and to keep a record of the need to reclassify the holdings in that field. Thus we have, and will have for some time to come, two concurrent classifications for some subjects. It is possible to follow this plan because in the revised schedule many numbers are new. In addition, many of the vacated numbers have not been reassigned to other subjects. Especially in Subclass RM, but to some extent elsewhere, the old numbers have been retained but inclosed in parentheses to indicate they are available for use should reclassification be delayed. Some overlapping does occur and in these instances immediate reclassification of holdings will be necessary. Since our stacks are open to readers, it is hoped that the use of the card catalog and placards warning that similar books may be found in two places will serve to obviate confusion, and that there will be no necessity to transfer any books to a storage stack or some place less accessible to those using the Library.

An excellent index accompanies the Third Edition of the *Class R; Medicine* classification. It contains a variety of cross references and includes entries under modifying words, such as medical philately, safety education, reparative surgery, primitive medicine, and limited medical services. There is also a synopsis listing the subclasses and an outline listing the subdivisions of these.

It should be borne in mind that the *Library of Congress Classification* scheme for medicine does not draw together all phases of information on regions, systems, and organs of the body. Instead there is a place for anatomy, another for physiology, another for diseases, another for surgery, and other places for other phases of a given subject. The same is true in regard to certain specific phases of medicine or disease. The physician who is reading on Geriatrics, which has a growing interest, will need to learn that material on his subject may be in RC952–954, but that portions of it may be assigned some other place, such as Senile Psychosis in RC254 or Senescence in QP86. The biochemist must be taught that much of his literature will be found in Subclass QP (Physiology) in the section assigned to Physiological Chemistry, instead of in Subclass QD (Chemistry) as he may suppose.

The *Library of Congress Classification* has been in use in the University of Oregon Medical School Library for many years. It has served our purpose well. Its flexibility has made possible such small changes or additions as seemed necessary for this Library. However, from time to time, and increasingly with more insistence, there has seemed to be a need for some basic revisions to make *Class R; Medicine* conform more closely with changes in existing knowledge. The new Third Edition has been published to meet this need and although our acquaintance with it has not been long, it seems to accomplish this purpose admirably.

*Cunningham Classification**

By Mrs. Sarah C. Brown

University of Alabama Medical Center Library
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The *Cunningham Classification for Medical Literature* was formulated by Mrs. Eileen R. Cunningham, Librarian of the Vanderbilt University Medical School Library, and was first printed in 1929. A second revised edition including an index appeared in 1937. The third and most recent edition, published in 1946,[1] contains more extensive revisions than the earlier revision, because of new trends in thought and development in certain subject fields. Mrs. Cunningham assures us that the *Classification* will continue to be revised.

There are two major parts to the *Cunningham Classification*. The first covering medicine and the allied sciences is worked out in great detail. A capital letter is used to designate every general division as J for Cardiovascular system; an Arabic numeral is added to form specific subdivisions as J2 for Heart. These subdivisions are further divided by adding a lower case letter such as J2a for Morphology of the Heart, and, when necessary, another numeral, so that the expansion can be carried on indefinitely. Certain form headings are used systematically under each general division. These are Bibliography, terminology, and methods and Study, teaching, and research:

H6—Ophthalmology
H6a—Bibliography, terminology and methods
H6a1—Study, teaching and research

The history number is given as a rule in a "See reference." The special subdivisions have other headings used consistently, Morphology, Physiology, Pathology. Under a subdivision as J2 for Heart, J2a would be Morphology of the heart, J2b, Physiology of the heart, and J2c, Pathology of the heart. Each of these headings is divided the same way each time as far as possible depending on the division under which it appears. Morphology of the heart J2a, is broken down into:

J2a1—Anatomy
J2a2—Histology
J2a3—Embryology

The second part of the classification is designed for material found in medical collections, but not for technical medicine. This part contains medical reference, biography, bibliography, history of medicine, and other peripheral subjects as well as general non-medical works.

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 17, 1953.

[1] Cunningham, Mrs. Eileen (Roach) comp. Classification for Medical Literature. 3d ed. rev. and enl. Nashville [Tenn.] Vanderbilt Univ. Press, 1946. xv, 160 p.

The divisions in this section are designated by double capital letters and the notation is expanded in the same way as the first part. The details of expansion in this part are left more to the individual librarian, however, depending on his collection. Some libraries may have extensive special collections and require a great deal of expansion in one or two divisions and little or none in others. There are also unused numbers to be adapted to the individual library.

This paper will emphasize the general qualifications of the *Cunningham Classification* and will present the advantages and disadvantages as determined by its use in the University of Alabama Medical Center Library.

In Margaret Mann's book[2] a summary of qualifications for any classification system is given. In evaluating this system by her criteria, the following conclusions may be drawn.

MANN QUALIFICATIONS	CUNNINGHAM CLASSIFICATION
1. It should be systematic, proceeding from the general to the special.	1. General divisions are designated by capital letters. Special divisions are formed by adding an Arabic numeral and these are subdivided further by the addition of a letter and a number as far as necessary.
2. It should be as complete as possible, that is, cover the entire field of a subject.	2. The system is divided into two parts, the first part consisting of twenty-six categories of medicine and allied sciences, the second a double letter section for paramedical material.
3. It should be sufficiently detailed to represent all degrees of generality.	3. The same specific form headings are used whenever applicable, such as Morphology, Physiology, and Pathology.
4. It should allow for the combination of ideas and for classifying from several points of view.	4. Suggestions are given in the form of "See references" under divisions such as Deficiency Diseases. For history See AA3r17. For Nutrition See D8d. For Biochemistry See D6f.
5. It should be logical, that is, show a sequence of ideas.	5. This scheme has been arranged as far as possible to conform to the curriculum and subject sequence of medical teaching.
6. It should be explicit, but concise.	6. The same form headings are used when possible and each subdivision is self-explanatory, as P3—Histopathology (cellular pathology, pathological histology).
7. It should furnish a notation easy to write and to remember, which shall serve as a symbol for books and determine their arrangement on the shelves.	7. The notation is easy to read on the shelf. There are no decimal points and as a rule the classification number is not long or involved.

[2] Mann, Margaret. Introduction to Cataloging and the Classification of Books. 2d ed. Chicago, A. L. A., 1943, p. 47–48.

8. It should be expansive and flexible in both plan and notation.	8. As the notation is composed of a letter, a number, a letter, a number, it makes the possibility for expansion limitless. The system was designed for a library of three to one hundred thousand volumes and can be used with ease in a library of either size.
9. It should furnish a class for general books, and also provide for books treating subjects in any class or divisions of classes in a general way.	9. A double letter section has been added for general works and under special divisions general headings, such as Bibliography, terminology, and Study, teaching, and research are used.
10. It should have an alphabetic index to facilitate its use.	10. The alphabetic index is a classification help as well as a guide to different aspects of the subject.
11. It should be printed in a form which will give one a quick survey of the field covered by the system.	11. The contents give a concise picture of the subject covered.

From this comparison, using the preceding criteria, it would appear that the principles of the *Cunningham Classification* are basically sound.

From the standpoint of a Medical Center Library, the date of the last edition of the *Cunningham Classification* could be considered a disadvantage. However, comparatively speaking the third edition is not much older than the newer revisions of other classification systems and there has been no difficulty so far in fitting new subjects into this scheme. The method of expansion will cause little if any reclassification for future changes.

This system would not be recommended for a purely dental collection, but it works unexpectedly well in our combined medical and dental library where in addition to the dental section, the preclinical subjects, oral medicine, oral surgery, and the general sections are used.

The University of Alabama Medical Center Library has open stacks, making the subject arrangement of the *Cunningham Classification* a distinct advantage for doctors and students. This arrangement presents (1) preclinical subjects, (2) anatomical regions, (3) disease, its nature and study, (4) organisms causing disease, (5) prevention of disease, and (6) study and treatment. The notation helps the staff as well as the patrons. The classification numbers are not, as a rule, long, and they are easy to read on the shelf. The date and edition appearing on the spine of the book indicate at a glance whether the material is recent or not.

It appears from the foregoing that in using the *Cunningham Classification* the advantages outweigh the disadvantages. In our experience, which covers a period of thirteen years, the system has been used in three types of libraries: a small county medical society library, a library with a collection under 50,000 volumes, and one with a collection of approximately 50,000 volumes. This classification has proved most satisfactory for a small library and for one rapidly increasing in size.

In conclusion the *Cunningham Classification* has been presented from the point of view of the University of Alabama Medical Center Library and the following facts have been found true:

1. The *Cunningham Classification* is founded on sound general principles according to the Mann criteria.
2. The copyright date is not a disadvantage because of the expansion possibilities of this system.
3. The *Cunningham Classification* would not be recommended for a purely dental collection.
4. The subject arrangement is advantageous for open stacks.
5. The notation is easy to read and remember.
6. The copyright date and edition number on the spine are convenient for patrons.
7. This classification can be adapted to either a small or a large library.

Discarding Sets of Medical Books*

By Pauline Duffield, *Librarian*

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WHEN I was asked to talk on disposing of sets which come to the library by gift, I found the problem of disposal and acceptance to be allied. Shall we keep, or shall we discard the many sets that have come to the library by gift or by purchase? Can we afford to keep material considered obsolete when many libraries are faced with the problem of housing and housekeeping? Many of the large public libraries have found that they cannot continue indefinitely to hold all the material now in their possession.

It has been said, "Let *no* book remain on the shelves unless someone fights to keep it there!"[1] If medical libraries were to take this as a guide in discarding material, I am afraid we would be forced to keep everything. Every gift is of the utmost value to a library, according to the donor. The binding may be very attractive, the set "practically new" (and of great value 50 years ago), and "no library can afford to be without it." All one has to do is look at the set to realize the books were never used by their former owner. The pages need cutting and the dust blown off.

All this being true, we must take the following points into consideration before discarding any set:

1. Does this set contain historical material not found elsewhere in the library?
2. Does this set have historical value as far as your own institution is concerned? Was it edited by a member, or does it contain members' papers not found elsewhere?
3. If you disposed of this set, could you borrow from a nearby library? What is the expense involved?
4. To your knowledge has this set been referred to in the past five years?
5. Are you serving a state-wide area? Do you feel your library should have everything, regardless of present usage? Why?
6. Do you have housing for little-used or never-used material?
7. Do you intend to dispose of this material as the collection grows and you are faced with the problem of insufficient space?
8. If you have storage for sets that are seldom used, can you get them within an hour?

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 18, 1953.

[1] Harding, G. Doctrine of sufferance in the library. Coll. & research lib. 8:120–124 (April) 1947.

Before adding or discarding material, we must have an answer to these questions. Each of us knows our own library situation and the type of library we hope to build.

For that reason, I sent out a questionnaire to a number of libraries. From the replies it was found that five of the libraries replying have all editions of every set, four libraries keep one set in each subject field and discard the others, two libraries discard all 31 titles on the list, and two libraries consider all the titles obsolete, and place the sets in dead storage. Several libraries keep the first and last edition of each title. One library keeps everything, regardless of value or condition, as its rules do not permit it to discard anything!

Keen's *Surgery* is still being used for teaching purposes. Volume One of Dennis' *System of Surgery* is considered of value because of its chapter on the history of surgery. Allbutt and Rollston's *System of Medicine by Many Authors*, Johnson's *Surgical Diagnosis*, Reynolds' *System of Medicine*, and Warbasse's *Surgical Treatment* are occasionally used in a few libraries, and as long as this continues they will not be considered for discarding or storage by these libraries. The *Reference Handbook* is used for the lay public in one library. Two titles frequently mentioned as discard material are the *Practical Medicine Series* and the *Sajous's Analytic Cyclopedia* of *Practical Medicine*. Many librarians indicate that they would never purchase the sets and when time permits or stack space becomes scarce will discard or store the titles they now hold.

The results of the questionnaire indicate that the first and last edition of each title should be kept if you are in a library serving a large area. There seems to be no justification for a small working library to keep sets that will be used only once or twice in five years.

Material to be discarded is first offered to the Medical Library Association Exchange. If not taken, it is offered to students and faculty members, or society members. If no one wants the material, it is then offered to waste paper dealers. Since this last method has proved to be more trouble than it is worth, the incinerator is most frequently the best means of disposal.

RESULTS OF QUESTIONNAIRE ON DISCARDING OF "SETS"

If you *keep* the following sets, please check *yes*; *if not*, check *no*.

Discarded Recently	Stored Recently	Yes (Still kept)	No (Discarded earlier)	
6	6	57	55	American Practice of Surgery, J. D. Bryant and A. H. Buck, 8 vols., Wm. Wood, 1906–1911.
4	6	51	60	Annual of the Universal Medical Sciences, C. E. Sajous, Davis—Philadelphia.
6	2	33	62	Appleton's New Medical Series, various dates and titles.
3	4	78	37	Diseases of Children, von Pfaundler and Schlossmann, 4 vols., 1908.
3	4	30	82	General Medicine, F. Billings and J. H. Salisbury, 15 vols., 1905–1915.

Discarded Recently	Stored Recently	Yes (Still kept)	No (Discarded earlier)	
3	3	50	63	GOULD & PYLE'S CYCLOPEDIA OF PRACTICAL MEDICINE & SURGERY, 2 vols., 1916.
5	4	66	46	THE INTERNAL SECRETIONS AND THE PRINCIPLES OF MEDICINE, Sajous, Davis—Phila., 1903–1907.
6	4	54	59	INTERNATIONAL ENCYCLOPEDIA OF SURGERY, Ashhurst, 7 vols., 1888–1895.
4	4	53	59	A MANUAL OF SURGICAL TREATMENT, Sir W. W. Cheyne and F. F. Burghard, 5 vols., new ed., London, 1912–1913.
5	4	55	57	OPERATIVE THERAPEUSIS, A. B. JOHNSON, Appleton, 1915, 5 vols.
4	3	47	65	PEDIATRICS, THE HYGIENIC AND MEDICAL TREATMENT OF CHILDREN, C. H. Dunn, Southworth Pub. Co., 3 vols., 1917.
5	5	56	52	PRACTICAL MEDICINE SERIES, 1903–1928.
4	3	48	65	PRINCIPLES & PRACTICE OF SURGERY, Agnew, Lippincott, 3 vols., 1878–83.
4	5	49	66	REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, various editors, new edition, 9 vols., 1886–1893.
6	8	75	35	SAJOUS'S ANALYTIC CYCLOPEDIA OF PRACTICAL MEDICINE, various editions, 1912–1918.
6	2	46	64	SAUNDERS MEDICAL HAND-ATLASES, various authors, 1898.
6	3	81	32	SURGERY, ITS PRINCIPLES & PRACTICE, W. W. Keen, Saunders, 6 vols., 1906–1921.
7	4	65	49	SURGICAL DIAGNOSIS, A. B. Johnson, Appleton, 3 vols., 1909–1910.
6	4	55	59	SURGICAL DIAGNOSIS AND TREATMENT, A. J. Ochsner, Lea & Febiger, 1920–1921, 4 vols.
7	5	66	46	SURGICAL TREATMENT, J. P. Warbasse, Saunders, 3 vols., 1918–1919.
4	4	42	70	SYSTEM OF MEDICINE, Russell Reynolds, ed., Lea, 3 vols., 1880.
4	3	24	87	SYSTEM OF MEDICINE BASED UPON THE LAW OF HOMEOPATHY, H. R. Arndt, ed., 3 vols. Phila., 1885–1886.
6	5	63	50	SYSTEM OF MEDICINE BY MANY WRITERS, T. C. Allbutt and H. D. Rollston, eds., 8 vols., 1896–1898.
5	5	52	60	SYSTEM OF PRACTICAL MEDICINE, Wm. Pepper, Lea Bros., 5 vols., 1885–1886.
4	4	48	65	SYSTEM OF PRACTICAL MEDICINE BY AMERICAN AUTHORS, A. L. Loomis and W. G. Thompson, eds., Lea Bros., 4 vols., 1897–1898.
6	4	57	55	SYSTEM OF PRACTICAL SURGERY, von Bergmann et al., Lea Bros., 5 vols., 1904.
5	5	59	53	SYSTEM OF SURGERY, F. S. Dennis, Lea Bros., 4 vols., 1895–96.

Discarded Recently	Stored Recently	Yes (Still kept)	No (Discarded earlier)	
5	3	37	71	A SYSTEM OF SURGERY, C. C. Choyce, ed., Cassell—London, 3 vols., 1912–1915.
7	4	58	54	SYSTEM OF PRACTICAL THERAPEUTICS, H. A. Hare, Lea Bros., 4 vols., 1897.
5	5	49	63	TWENTIETH CENTURY PRACTICE. INTERNATIONAL ENCYCLOPEDIA OF MODERN MEDICAL SCIENCE, Stedman, ed., 20 v., 1895–1900.
4	2	51	60	WOOD'S LIBRARY OF STANDARD MEDICAL AUTHORS, various dates and titles, 1882–

DISTRIBUTION OF SETS AMONG THESE LIBRARIES

17 Libraries (14.2%) have no sets.
21 Libraries (17.5%) have 1–5 sets.
11 Libraries (9.2%) have 6–10 sets.
10 Libraries (8.3%) have 11–15 sets.
15 Libraries (12.5%) have 16–20 sets.
18 Libraries (15%) have 21–25 sets.
16 Libraries (13.3%) have 26–30 sets.
12 Libraries (10%) have 31 sets.

OTHER TITLES SUGGESTED FOR INCLUSION

CLINICAL DIAGNOSIS AND SYMPTOMS, A. Martinet, Davis, 1923, ed. 3, 2 vols.
CLINICAL THERAPEUTICS, A. Martinet, Davis, 1927, ed. 2, 2 vols.
COLLECTED PAPERS OF THE MAYO CLINIC.
CYCLOPAEDIA OF PRACTICAL MEDICINE, John Forbes, ed., 1847, 4 vols.
DISEASES OF KIDNEYS, URETERS & BLADDER, Kelly & Burnham, Appleton, 1914, 2 vols.
ENCYCLOPEDIA OF PRACTICAL MEDICINE, Nothnagel, Am. Ed., 1902, 11 vols.
ENDOCRINOLOGY AND METABOLISM, Lewellys Barker, Appleton, 1922, 5 vols.
HANDBOOK OF PRACTICAL TREATMENT, Musser-Kelley, Saunders, 1917, 4 vols.
HANDBUCH DER KINDERHEILKUNDE, 4 vols., 1931. (Trans. DISEASES OF CHILDREN, 5 vols., 1935).
INTERNATIONAL ABSTRACTS OF MEDICINE (Prior).
INTERNATIONAL ABSTRACTS OF SURGERY (Prior).
INTERNATIONAL CLINICS, Catell & Mayo.
LEHRBUCH D. ALLG. PATH. U. PATH. ANATOMIE, Ziegler, Fischer, 1895.
LEHRBUCH INNERER KRANKHEITEN, Adolph Strumpell, Vogel, 1914, 4 vols.
LEHRBUCH D. INNER. MED., V. G. Bergmann, et al., Springer, 1934, 2 vols.
MEDICAL CLINICS OF CHICAGO.
MODERN MEDICINE, Wm. Osler, Lea & Febiger, 1907, 1913, 1925 ed.
PEDIATRICS BY VARIOUS AUTHORS, I. A. ABT., 8 vols., 1923.
PROGRESSIVE MEDICINE, Hare and Appleman, Lea & Febiger.
SURGICAL CLINICS OF CHICAGO.
SURGICAL DIAGNOSIS, E. A. Graham, 1930, 3 vols.
SYSTEM OF PRACTICAL MEDICINE, A. Tweedie, 1840–41, 5 vols.
SYSTEM OF SURGERY, Timothy Holmes, ed., 1860–64, 4 vols.
SYSTEM OF SURGERY, F. Treves, ed., 1895–96, 2 vols.
THERAPEUSIS OF INTERNAL MEDICINE, Forschheimer, Appleton, 1916, ed. 3, 6 vols.

Bigger or Better Collections?*

By Clara Louise Meckel, *Librarian*

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ONE librarian writing on weeding gives this advice: "First, be absolutely convinced of the necessity of the measure; second, make your selection with the greatest care; and third, dispose of the material so cautiously and surreptitiously that there will be no *corpus delicti*."[1]

Another librarian, more bold, says this about weeding: "Discarding books can be very time-consuming and if one does it too cautiously he will find that he has spent a great deal of time and freed very little shelf space." ". . . Mistakes will be made. Some of the titles discarded will be asked for later . . . but the many hundreds of volumes that will never be missed should be compensation for the few that have to be replaced."[2] Here are two opposing attitudes toward this problem which most librarians must cope with when there is just no more room.

Scarcity of a product seems to make that product more valuable to people; thus long ago when books were uncommon they all were precious and not to be destroyed deliberately. This attitude of holding books in high esteem is indeed a laudable one. However, nowadays when it seems everyone from the American Meat Institute to *One Man's Family* is producing books and sending them out in return for a box-top, the attitude may be termed indiscriminating, to say the least. Yet there seem to be librarians and deans and library committees who hold the view that if it's printed it's valuable.

Some libraries have no weeding problem simply because their policy is to try to collect and keep a copy of nearly everything in their field. "Policy" is the key word here. Weeding is closely related to book selection and acquisition, and they are both determined by library policy. As you buy, thus shall you weed. A definite policy will do much to clarify the weeding problem. It is my feeling that some of the smaller libraries help make their own space problems, because some believe that the prestige of the library is enhanced if it can be said that it is collecting for research clientele and that its collection is constantly growing

* Read at the Regional Meeting of the Washington, D. C., Area Medical Library Group, Baltimore, Md., April 11, 1953.

[1] Carr, Elizabeth. Symposium: Weeding the medical library. Medical school libraries. Bulletin, 40: 162–163, April 1952.

[2] Woods, D. A. Weeding the library should be continuous. Library Journal, 76: 1193–1196, Aug. 1951.

bigger and bigger. I believe that because of these attitudes the smaller libraries tend to keep on their shelves the obscure dissertations and the seldom used journals which may be asked for once in the next fifteen years, other copies of which are permanently on the shelves at the Armed Forces Medical Library, Welch Library, Boston Medical Library, or the New York Academy of Medicine—libraries which have, I believe, legitimately established themselves as inclusive collections. "When size is no longer a criterion of a good library and qualitative standards have replaced quantitative, a great barrier to weeding will have been removed."[3]

In order to proceed intelligently with this problem of whether to keep or discard the obscure dissertation and the seldom used journal, it is essential that the library base its decision on a long-range policy. What is the scope and intent of the collection? Is the geographical location of the library advantageous for interlibrary loan? Does the clientele include a number of creative, scholarly research men, or are they frustrated only by Portuguese references? Is the library preserving a copy of every book and journal in the field, or is it concerned chiefly with current reference requirements?

As to the relative costs of weeding versus keeping a volume, a series of time studies carried out at Milwaukee State Teachers College Library in December 1950[4] shows that books can be withdrawn at a maximum cost of ten cents per book using clerical help to do the routine parts of the task. Fremont Rider writing in 1951[5] said it costs sixteen cents a volume annually to keep books on the shelves.

When it comes to the actual discarding of books, a great comfort is the authoritative list. One can safely keep those titles listed in the Garrison-Morton *Medical Bibliography*,[6] for example, and for these, decisions are already made. What of the titles not listed in the authoritative bibliographies? Here the clear-cut policy must be remembered and other criteria must be used. One source of help is the subject specialist; in a school of medicine the faculty can be of help.

Further, there is a relationship between the age of a book and the probability that it will be used. Lewis Stieg showed this relationship in an article published in 1942.[7] The statistical curve which he demonstrated is as definite as life insurance mortality tables. The dates of publication should give a pattern with recent titles predominating. Charles F. Gosnell[8] showed that the rate of obso-

[3] Ibid.

[4] Ibid.

[5] Rider, Fremont. Microcards vs. the cost of book storage. American Documentation, 2: 39–44, Jan. 1951.

[6] Garrison, F. H. A Medical Bibliography. Revised by L. T. Morton. London, Grafton, 1943.

[7] Stieg, Lewis. Circulation records and the study of college library use. Library Quarterly, 12: 94–108, Jan. 1942.

[8] Gosnell, C. F. Obsolete library books. Scientific Monthly, 64: 421–427, May 1947.

lescence for physiology and hygiene books is about 21.6 per cent, meaning that most books in these fields are obsolete within five years after publication.

"Out-of-date" is hard to interpret. Quincy Mumford,[9] Director of the Cleveland Public Library, defines it as "a book which no longer conforms to the present prevailing ideas of that information or presentation." He says ". . . It should be kept in mind that every time an out-of-date book is borrowed, the library may do the reader a disservice because he may draw conclusions or act according to information from the book. The result will be a loss of library prestige, for the reader will discover that he did not receive what he expected. The average reader is inclined to believe or trust information which he finds in the library. . . To some readers the mere fact that a book is in the library lends authority to it." To illustrate, a freshman medical student came into the office and asked if there were some way he might register a complaint against a book. He had recently had a book from the library which did not agree with what he had been learning in physiology— a book by someone named Ellis. Upon questioning I learned he was referring to Havelock Ellis' *Studies in the Psychology of Sex*. When I pointed out the date of Ellis' book, 1905, he was somewhat mollified.

Closely allied to the out-of-date book is the problem of the old edition. Many students do not watch imprint dates and will continue to use old titles. From my observation I would say this is very likely to happen when an old edition has been rebound. The student will often choose the newer appearing edition. Would it perhaps be more of a favor to the student to use that rebinding money to procure a second copy of the most recent edition?

In our medical school Library we received a request from a faculty member, the author of a textbook, that the first edition of his book be removed from the shelves when the second edition was published because of information in the first which was later disproved. But how many medical librarians around the country are carefully keeping their copies of the first edition of this book for future reference?

One writer, giving her experiences with weeding, says, "One copy of each edition of a text was kept. Thus, complete files of Osler's *Practice of Medicine* and Holt's *Textbook of Pediatrics* are available and form records of the development of these fields."[10] I am going to tread on dangerous territory and question this practice. When a man comes in requesting information on the history and development of pediatrics, do you reference librarians refer him to all editions of Holt? Are these old texts really used or is this just a compulsive activity of librarians? I am not advocating the weeding of all old editions, but some of them seem to me to be expendable.

[9] Mumford, L. Q. Weeding practices vary. Library Journal, 71: 895–898, passim, June 15, 1946.

[10] Murphy, Marion A. Symposium: Weeding the medical library. Medical school libraries. BULLETIN, 40: 162–163, April 1952.

Other categories which lend themselves to consideration for discard beside the out-of-date and the old edition are the following:

MULTIPLE COPIES. As the librarian goes over the shelves, he should check the book cards for usage of multiple copies. If the title is no longer used on reserve shelves, perhaps copies 3, 4, and 5 can be discarded.

REPRINTS, both single and collected, which one has in the original publication may be safely discarded.

LOOSE-LEAF COMPILATIONS no longer kept up-to-date should be withdrawn.

REMNANTS OF SETS as seen in the short run of 1902–1905 obscure journal might be weighed and found wanting.

Finally, I should like to suggest that medical librarians read, consider, and start talking about Janet Doe's editorial, "Best Books in Medicine," which appeared in a recent issue of this BULLETIN.[11] In it she suggests the compilation of catalogs similar to the *Standard Catalog for Public Libraries* which has been the guide for small general libraries for many years in their selection of books. Such a catalog would surely be valuable, also, in the weeding process.

[11] Doe, Janet. Best books in medicine; a guest editorial. BULLETIN, 41: 78–79, Jan. 1953.

The Role of the Medical School Library in the Medical School Teaching Program*

By Chauncey D. Leake, Ph.D., *Executive Director*

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ONE of the most important current developments in medical education is the increasing use of the medical school library as an essential instrument in the medical school teaching program. This is an inevitable feature of the overwhelming mass of detailed material we are accumulating through research regarding health and disease. While the prime function of any scientific library is the accumulation and preservation of knowledge about ourselves and our environment, it is increasingly apparent that this vast information must be used if it is to have any significance at all in our culture.

The accumulation of knowledge in regard to medicine has had enormous effects on the character of the professional medical effort. One may note four phases in man's approach to disease: (1) the primitive fear of disease, with resulting superstitious attempts to handle it, which unfortunately persists even to the present; (2) the gradual accumulation of knowledge about disease through the centuries of experience gained by a professional group particularly interested in managing disease; (3) the gradual accumulation of precise knowledge about the cause of disease, resulting in a shift of emphasis at the beginning of this century toward the prevention of disease; and (4) the current appreciation that we know enough about disease and have devised skilled enough methods of handling it, so that we can turn our attention toward the promotion of optimum health.

These four phases are of great importance. While the primitive fear of disease still persists with us, and while the traditional methods of handling disease result in physicians sitting back to wait for disease to come along, the accumulation of knowledge about disease has resulted in a much more aggressive attitude now in trying to prevent disease. The difficulty is that our economic imagination has not kept up with our accumulation of knowledge, so that doctors still cannot make a living by practicing on the basis of preventing disease. Maybe this can develop as doctors learn that people are willing to pay to keep healthy. The success of the Armed Forces in maintaining optimum health in our fighters shows the way by which civilian practice may satisfac-

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 16, 1953.

torily be turned toward the promotion of optimum health. Certainly people would be willing to pay well for such service.

In these significant changes in approach to the practice of medicine, medical libraries have played a leading part. From remotest antiquity doctors found that the empirical knowledge about disease and its management was too much for memory. Records and texts began to be kept even as early as the fourth millennium B.C. The early Egyptian physicians had exceptionally well organized surgical texts, as the existing Edwin Smith Surgical Papyrus clearly shows. This document is a series of typical case histories organized for injuries from the top of the head running down through the body, with each case developed upon the basis of examination, diagnosis, prognosis, and treatment. This text, now in the New York Academy of Medicine, was copied by a scribe about 1800 B.C., from a much older original. The copying scribe had to explain terms already archaic, which indicate that the original document must have been written about 3500 B.C. Similarly, the great Ebers Papyrus, which was destroyed in World War II in Leipzig, was a medical text with some 800 prescriptions and a few monographic discussions of diseases and anatomical conditions; it too was written about 1800 B.C. Even the general practitioners of old Egypt had their formularies copied for them by scribes from the scrolls kept in the centers of teaching. The Hearst Medical Papyrus at the University of California and the Berlin Medical Papyrus are of this sort. Similar texts from old Egypt have been preserved for gynecology (the Petrie Papyrus in London), and for proctology (the Chester Beatty Papyrus in London). There must have been collections of texts in the major teaching centers of old Egypt, and there is similar evidence that collections of recipes and procedures were made by the ancient Sumerians.

In ancient Greek times it is apparent that the great teaching schools of medicine at Cos, Cnidus, Pergamon, and Epidaurus must have had libraries of reference. The teachers at these schools were encouraged to make records of their observations. The great Hippocratic collection represents the accumulated wisdom of the school at Cos. This remarkable library of medical material indeed became one of the most important sources for the development of rational medicine in western culture. Its philosophical impact is powerful even now, in connection with the high ethical standards of practice which were encouraged, and in the naturalistic approach to disease. The high value always placed on this great collection is clear from the care with which it has been preserved through two and a half millennia.

Similarly, great collections of medical works were made in the ancient Chinese and Hindu cultures, and were used as the basis for medical teaching for centuries. Unfortunately, in the case of Chinese and Hindu medicine, the ancient texts became stereotyped, were followed blindly, and few additions were made as a result of original observations. The result was an unfortunate

static condition for medicine, reflecting the stagnation of all scientific or exact knowledge in these lands.

When the Romans inherited Greek culture, they developed libraries of great size and importance. Individual physicians, such as Galen, must have had relatively large collections of manuscripts, to judge from the many references to previous writers which occur in their own records. The great library at Alexandria, known throughout all antiquity, unfortunately was burned and later pillaged in religious riots.

During the Dark Ages in Europe, the ancient glories of Greco-Roman medicine were carefully preserved in the rapidly expanding Arabian culture. The significant contributions from antiquity were translated into Arabic and Hebrew, and studied and hoarded in libraries throughout the Mohammedan empire, and later were translated back into Latin for the benefit of the teaching centers which gradually developed in Italy and western Europe.

The Medical School of Salerno, which was the center for medical training through the 13th century, must have had a considerable library. In the manuscript collections preserved there were translations into Latin from Arabic sources, and there were also gradually accumulated manuscripts in original Greek from the old Greek tradition in medicine. This material was commented upon and expanded by the Salerno teachers, and set the example for the later university studies in medicine as reflected at Bologna, Padua, Paris, Oxford, Cambridge, Montpellier, Basle, and Prague.

With the development of printing in the 15th century and the mass production of books, libraries became an essential part of the working equipment not only of individual physicians, but of all medical training centers. The books were precious. They were kept carefully, and often were chained to the reading desks in the libraries. They were sumptuously bound, with the leaves pressed by clasps, so that they would not buckle or warp, and were considered to be the prize possessions of the teaching institutious. Since the books in the library were so precious, they were kept locked up. The librarian was personally responsible for them. The library could only be opened for use to fully accredited people. It apparently was open only for a limited period of time. Unfortunately, these medieval traditions shackle too many of our own modern medical libraries, but the tradition of the precious value of medical books is well worth maintaining.

As the great medical organizations and academies developed in Europe in the 17th century, libraries became their special interest. The library of the Royal College of Physicians in London was outstanding. Similarly the library of the Royal College of Surgeons was a center for postgraduate teaching and learning. Unfortunately, these libraries maintained medieval traditions with respect to the care with which they were used. Only individuals with the most critically screened qualifications were allowed to use the books, and otherwise

they remained locked in their cases. This unhappily is still the case in many of these fine institutions.

Thus, the great medical teaching centers in Europe became relatively static with respect to libraries. During the 19th century most of the medical schools in the Germanic sphere of influence developed on the basis of separate institutes for each discipline, and each institute had its library. As a result there was much duplication. The head of the institute usually contributed most of the books himself, and they were, in effect, his personal property. Accordingly, they could be used only by the special pupils working under his direction for graduate degrees in the disciplines involved. The average medical student could do little more than buy the books he needed for his own studies; in addition, he had little access to medical libraries for reference use or reading.

Nevertheless, the example of the brilliant clinical teachers in Paris, London, Edinburgh, and in the German centers of Vienna, Berlin, Leipzig, and Munich stimulated the more eager students, among them many Americans, to accumulate helpful personal libraries. In the 19th century it was still possible for an energetic physician to have a personal library reasonably satisfactory for the knowledge available at the time. Certainly three to five thousand volumes would cover the entire range of important medical contributions, even including the rapidly growing special periodicals, for personal use.

Only recently have European medical training centers followed the example developed at American medical schools in having a central library for student use. The many new medical schools established in India, China, Japan, South Africa, and Latin America have attempted to develop student-use libraries. The most important example set here was by the Peking Union Medical College, under Rockefeller Foundation influence. What has happened to this important library, following Japanese and Communist China domination, is unknown.

Meanwhile, there was rapid mushrooming of medical schools in the United States during the 19th century. This was necessary under the speedy expansion of the country, with frontier conditions and relatively poor communication. The early American medical schools had poor library facilities; however, attempts were made to develop student-use libraries at Harvard, at the College of Physicians and Surgeons in New York City, at Pennsylvania, at the University of Virginia, at Tulane, and even at the frontier school at Transylvania.

As medical education in the United States was stabilized at the beginning of this century, with the elimination of proprietary and ill-equipped schools, medical libraries became a standard part of the medical school program. Special libraries were developed at some schools, such as the great Lane Library at Stanford Medical School in San Francisco. Outstanding has been the splendid student-use library at the Johns Hopkins Medical School, and at Yale Medical School. Very helpful has been the influence of the New York Academy of Medicine, the Philadelphia College of Physicians, the Boston Medical Library,

the John Crerar Library in Chicago, and the Mayo Clinic Library in setting examples for helpfully organized medical library development in connection with medical teaching, research, and professional service.

The Scope of Modern Teaching Medical Libraries

Modern medicine has expanded enormously. We are entering the fourth phase of medical service, directed toward the promotion of optimum health. Under these circumstances many auxiliaries play a role in the medical team. Indeed, some universities, such as Ohio State, are wise enough to designate such a combination of activities as "The Health Center." These various auxiliaries to the health team use the library as much as medical students. Accordingly, provision must be made in the modern teaching medical library for full reference service in all fields of medicine and also in dentistry, public health, nursing, veterinary medicine, pharmacy, clinical psychology, clinical laboratory technology, radiation technology, physical therapy, occupational therapy, sociology and social service, dietetics, and hospital administration. Indeed, the alert medical librarian must now be prepared to anticipate the needs of intelligent laymen in health affairs, and have material which may bear upon all sorts of aspects of the current health effort, including economics, philosophy, esthetics, and general literature.

The modern teaching medical library is in fact a general reference center, with special collections expanded in the fields of the various health disciplines. The general reference sources in the humanities, in literature, in esthetics, in philosophy, and in mathematics, chemistry, physics, and biology remain the firm foundation of the first-class medical library, as of any other general library. If the health center is part of a general university campus, these general library sources will be available in the general university library. Even under such circumstances, however, there is much to be gained in developing a special health center library, where there may be much duplication of material in the main university library, but where the morale of the growing health team can be well nurtured by close association in a conveniently arranged and working health library.

The arrangement of a health library is extremely important. Primarily it should be designed for convenience of use. All students in the health fields can be assumed to be mature and responsible individuals, who are working in the health fields for serious ends. Under these circumstances the health library can well be developed on an open shelf basis, so that the users may find the material they want themselves. There should of course be full indices and a relatively large area for general reference works, near the entrance, so that the library users can get essential general information readily. Here may also be the bibliographical and abstract tools for systematic study. Let pencils and note-paper be handy!

It matters little what classification is used in a modern health library. The point is to get the books out where they can be seen, where people can take them down and look at them, and where the library is arranged openly and conveniently for such a purpose. An apron shelf along widely spaced stacks, arranged in cubicles, makes for convenience. A table with chairs in the center of the cubicle makes it easy to sit down and make such notes or do such reading as may be pertinent to the books at hand.

Even if the health center library is part of a great university library, arrangements can be made for its individuality, and for promoting the team work of the health group. Would that all great university libraries could be as conveniently and comfortably arranged as the new Princeton Library! Here in addition to large general reading rooms and special rooms for special collections, are vast open shelves throughout the building in close proximity to seminar rooms, individual cubicles, lounging areas, and rooms pleasantly devised for group discussion and study. With the stacks in the center, and the lounge and seminar rooms arranged peripherally, the library works smoothly and efficiently. With open shelves students are encouraged to find for themselves the material they wish. The check out desk is efficient, and the library is open from 7:00 in the morning until midnight every day, including Sundays and holidays.

This is really the way to run a large modern library. Such a place is, of course, the intellectual center for an intellectual institution. In any health center the library should be the intellectual heart of the effort. To function in this manner, every effort must be made to have the material in the library reasonably comprehensive, as conveniently arranged as possible, and always in fairly good order. Convenience, comfort, and cleanliness may well be the slogan for a medical library prepared for teaching use.

If the health library can be developed as an independent unit, it should still preserve the general features of ready accessibility of all material, ease in using the books directly where they may be stacked, and with full provision for many seminar rooms, lounging rooms where tea may be served, special study rooms, and individual cubicles.

There is little purpose in a modern health center library acquiring and keeping textbooks. The students get these on their own. A small file of current textbooks might be maintained for reference purposes, and the first editions of important texts might be kept for historical interest, but the main type of material for a first-class modern health library is comprehensive periodical files and well-selected monograph publications.

If the health library is properly arranged with cubicle shelving, seminar and study rooms, and with full conveniences for readers throughout the stacks, the bound periodicals and monographs may be run together. This helps frequently when the library is not too large. On the other hand when a health library exceeds 50,000 or 60,000 volumes, it seems preferable to keep the monographs

in cubicle arrangements for ease in reference and use, and to keep the periodical files in stacks. Sometimes it helps to have the last five years of a periodical in the monograph cubicles, in order to provide ready reference. However, this may result in a lot of unnecessary movement, if much reference work is undertaken in the library.

Current periodicals can be conveniently located in a special cubicle or area. Upon arrival periodicals might be placed on tables in the main reading room for a day or so to give those sturdy regular readers of every good medical library a chance to check them over day by day as they come. The major periodical sets, such as the *Journal of the American Medical Association*, *The British Medical Journal*, *Lancet*, and *Science* may be conveniently shelved in the general reading room. Here also should be kept the general reference works, and of course the major indices and the abstract journals.

Whatever promotes the ease of use of a health library will contribute significantly to the teaching effort in the health center. Students can readily learn where the books in which they may be interested are located, and they may be stimulated and encouraged to browse frequently and often throughout the library if it is open for their convenience. With comfortable chairs and lounges, with desks and tables frequently placed, with easy arm chairs, and with paper and pencils liberally supplied, the library can indeed become the real center of the entire teaching effort.

The difficulty is that many teachers in medical schools and most medical students do not know how to use a medical library. The librarian can help. An orientation in the use of the library to first year students is a real aid. This should include orientation for the students in all of the health auxiliaries. It is wise for the librarian to speak frequently at faculty meetings regarding the activities of the library, so that all members of the teaching staff will know what is available, and what is planned in connection with the development of the health library. An imaginative library committee can really assist.

While funds may be a limiting factor in the character of the health center library and in the books arranged in it, wise care in the selection of books and periodicals is paramount. The exercise of such wisdom will inevitably bring its own rewards in increased funds, as the usefulness of the library becomes increasingly apparent.

If the central health library in a teaching health center is not large enough or cannot be satisfactorily designed to provide seminar and conference rooms or lounges, the health library may be decentralized in part by placing appropriate periodical files and monographs in departmental seminar rooms and libraries. This might require some duplication of material, but it would certainly greatly assist the teaching effort. An alert health library staff could keep the departmental libraries coordinated with the main health center library, see to it that the books in the departmental seminar rooms are kept in order, and

promote some competitive morale by seeking gifts for departmental libraries from departmental staff members. Pooling of departmental resources might assist in developing strong departmental libraries to supplement the main health center library. Such a program has worked successfully for many years at Western Reserve Medical Center in Cleveland. In the clinical departments, especially, many of the departmental staff members would be willing to donate to their own departmental libraries some of the periodicals to which they personally subscribe. Such departmental libraries, conveniently arranged in the departmental seminar rooms, are helpful in course study work on the part of the students. Ready accessibility and informality of the small book collection in the seminar room promotes use.

One of the most important features of a departmental teaching library for use in the departmental seminar room, or in the main health center library, is a carefully organized reprint collection. Reprints of significant articles can readily be obtained on request. Such articles may be treated as special items and may be bound in pamphlet binders and cataloged. Reprints of review articles are particularly useful in the health teaching effort. The accumulation of detailed knowledge in special health fields is so great that it is impossible even for experts to digest it adequately, and the original articles and abstracts are very confusing, particularly to students. Critical reviews summarizing and analyzing significant contributions in a field are extremely helpful to students. Each article in *Medicine*, *Physiological Reviews*, *Pharmacological Reviews*, and *Biological Reviews* is worth treating as a separate article in binding and cataloging. The topical character of *Annual Reviews* render them less satisfactory for teaching than for research. We need more critical review journals to aid our health teaching program.

It is pertinent for the health center librarian to know fully what the teaching curriculum may be in each of the health fields. Careful selection of periodicals and books to supplement the curriculum, and to add interest to the students taking the various courses, will result in increased use of the library, and thus in an increased efficiency in the teaching effort. Book and periodical reference lists may be posted daily or weekly to correlate with the subject matter of the different courses.

Fortunate is the health center where there is a good book store. This can well supplement the library of the institution, particularly in making available appropriate texts for the students, and by encouraging the purchase of special professional items in which the individual student may be interested. Such a store can also encourage the development of a small personal library containing some of the well-known classics related to medicine, and thus help promote the general cultural effort of the health teaching program.

The health center library itself would add greatly to the curriculum effort by having special collections relating to general cultural publications with a

medical flavor, including poetry, novels, medicated essays of various sorts, and a wide collection of the major literary classics. These can frequently be obtained by gifts, especially from older physicians on the staff.

Of major importance is the historical collection in a health center library. This should serve as the archives for the institution, where all the important records of activities may be preserved for future study and use. Here, also, may be arranged exhibits from time to time to give the cultural background for the institution, and of course of the various health fields. As far as possible, this historical collection should foster study and quiet readings. If possible one copy of an early edition of an outstanding work of every great medical contributor should be obtained for the historical collection. This will add to the interest of orientation in the health disciplines; we all know best what we learn from its beginning. And it adds greatly to the interest of the complex fields related to medicine to see something of the ancient volumes which have contributed to the growth of the professional effort.

An interesting feature of a teaching health center library would be a collection of reprints and publications of staff members. Not only would this provide an important record of achievement in the institution, but it would help in the teaching effort by aiding the students in knowing at first hand what their teachers actually contribute. Such a collection is a considerable morale builder and may help maintain a wholesome competition among the staff members.

A recent development in American health teaching centers is the establishment of a "house organ." Some of these periodicals are maintained by alumni interest; most of them are quarterlies, some with considerable dignity and distinction. The *Yale Journal of Biology and Medicine* has had over 25 years of outstanding leadership, while the *Bulletin of the Johns Hopkins Hospital* has long been widely recognized as one of the most important monthly journals in medicine.

There are many interesting aspects to these local publishing efforts. Primarily, they provide an opportunity for the local teaching staff and student body to publish significant contributions. With the increasing centralization of editorial activity in the northeast part of this country, where the editors see each other frequently and talk things over, thus learning each other's whims and biases, there is often difficulty in obtaining publication from a provincial area which is unknown to the editorial staff. It is very easy for the editors on a great national journal, who may never have travelled much, to think of a health training area in some outlying part of the country as being a small and inconsequential affair from which nothing very worthwhile could ever come. The provincial health centers should, therefore, support their own publishing endeavor. Such a publication can be in the best democratic tradition. To obtain reasonable policy agreements, we must all, as John Locke long ago showed, have access to the same body of verifiable knowledge. Science has a great

part to play in the democratic process. It was on this principle that Thomas Jefferson and his followers in this country advocated the establishment of the free public school. This was for the purpose of providing an opportunity for all of the citizens of a democracy to have available to them verifiable information about themselves and their environment. It was on this same basis also that the free public library has developed in this country. Now it would seem appropriate that on the same general principle all institutions supported at public expense should make freely available the results of their independent investigations and research. Hence the local journal in the health fields can really be a most significant factor in the general teaching program, particularly if it is distributed without cost to the libraries of medical institutions all over the world. The practical response in exchange is more than worth the effort!

Summary

Medical and health libraries can well be the heart of the teaching effort of a medical or health center. Books and periodicals may be obtained, arranged, and listed in accordance with the teaching program of the institution, with material organized especially for ease of reference and use, as correlated with the content of courses. Physical accessibility to monographs and periodicals, plenty of space for note-taking and reading, lounges, conference and seminar rooms, and individual study cubicles, contribute greatly to the teaching use of a medical library. Most important, however, in the success of correlating a medical library with a modern medical or health center curriculum is the skill, adaptability, good sense, and good humor of the health center library staff. That they are succeeding so well in promoting the teaching use of medical libraries throughout this country is testimony to their judgment and ability.

Dental Journals for a Dental School Library*

By George B. Denton, Ph.D.

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DENTISTRY is not merely a livelihood; it is a profession. As a profession, dentistry is to be measured in three dimensions, geographical, temporal, and cultural. (By *culture* here I mean the aggregate of dental practice, knowledge, and materiel.) Dentistry, rightly viewed, is not local and provincial nor even national, but world-wide, embracing the personnel and practice of dentists in all countries. Nor is dentistry just of the present; it has developed out of the past and reaches into the future. Today is not the ultimate in its accomplishment, nor yesterday its beginning. Dentistry is a progression, and in most respects, we believe, a progress. Dentistry does not comprise merely the professional personnel and the science and technic of practice; it consists of all activities involved in the work of dentistry, the practice, the knowledge, the personnel (auxiliary and intrinsic), materials, and manufactures in their various interrelations and ramifications. To understand the profession of dentistry fully, as with any other profession, it is necessary to understand all of the elements which enter into it.

The library in a dental school is the intellectual center of the institution. It is the only organ of the school which represents all the activities and all the aspects of dental education, dental research, and dental practice. Its functions are centripetal and centrifugal; it draws into its collection the literary record of dentistry's activities and disseminates these sources of information among students, teachers, and research workers. If it is adequate, its scope will be the whole field of dentistry and its shelves will represent everything that pertains to dentistry. Only the library can furnish this universal outlook.

The implication of these generalities about dentistry and the dental library is that all dental periodical literature has an educational value and that an ideal dental library would possess all of it. Therefore, it must be assumed that that there can be only two valid reasons for excluding any dental journals from the library shelves; these are the high cost of subscriptions and the lack of sufficient space. If I were a dental librarian and had both the means of acquiring the dental journals which I desired and plenty of storage space, I should endeavor to obtain every journal, defunct or current, which I could discover.

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 18, 1953.

Limited budgets, it must be admitted, are a considerable obstacle to the realization of such an ambition. This difficulty must be much greater for some libraries than for others. A library like that of the American Dental Association is perhaps most fortunate in the fact that most of its current journals are obtained by exchange. Through exchanges with the *Journal of the American Dental Association*, this library receives 125 titles, and through the *Journal of Oral Surgery* it secures 85 more, making 210 titles in all. The Northwestern University Dental School Library, through its graduate bulletin, which though small often contains good research material, is also able to acquire many of its periodicals through exchange. This Library spends about $1,000 on periodicals, subscribing to 125. It receives 85 periodicals as gifts and 190 through exchange.

Perhaps these facts constitute a good argument for the publication of a school journal. It is a common complaint, I believe, that the cost of a school journal makes its publication prohibitive. I wonder whether in calculating the cost, the administration considers the subscription-saving value of such a bulletin or journal to the library. If the school journal publishes book reviews, it can also save, perhaps, on the purchase of books. Much of the cost of the school paper might very well be offset by the saving on the library budget.

Let us consider periodical dental literature from various points of view to see what, in a library of restricted budget and limited shelf room, should be the type of periodicals receiving preference.

First of all comes the question, is there space for foreign literature? It may be argued that few dental practitioners are able to read any language but English, and therefore there is no use in buying foreign journals to take up valuable space as long as they will not be read. It must be remembered, however, that among the personnel served by the school library are two important classes, teachers and research workers. If dental students, dental teachers, and dental researchers do not now use the foreign literature to any extent, surely there is coming a time before long when this literature will be in demand. This event no doubt will be hastened by the production of a complete list of foreign journals and by an adequate index to them. When this occurs, the librarian who has had the foresight to give the foreign journals at least some consideration will be blessed by readers as was Dr. William Bebb, who in 1923 foresaw the need and collected foreign journals for the Northwestern University Dental School Library. If the current periodical dental literature of the various parts of the world are not represented in the teaching and research of this country, American dentistry, paramount as it is, cannot escape the criticism of provincialism. Of course, the librarian will not allow foreign journals to displace the best journals in English, but certainly, if there must be a choice, some good foreign journals may well supersede the poorer periodicals in English.

Most of the foreign journals pass over my desk at the American Dental Association. I examine casually at least 90 of these. As I scan these periodicals,

I constantly keep in mind the research that I know is going on in other institutions, and I occasionally run upon references in these foreign journals which are of great interest to my teaching colleagues and of which they are entirely unaware. From the point of view of research, every dental library certainly should have in its possession the excellent journals now published in Switzerland and the Scandinavian countries. One or two of the German journals are also important.

The second problem in the choice of periodical literature is the apportionment between current journals and those of bygone days. Since dentistry has strong roots in the past, students, teachers, and research workers should have access to the periodical literature of earlier years. No dental library can look upon its periodical collection with complacency unless it includes complete, or nearly complete, files of the following journals in English which are now defunct: the first dental journal in the world during the first twenty years of its existence, under the direction of Chapin A. Harris, the *American Journal of Dental Science* (1839–1860); the *Dental Register*, (1847–1923); the *Dental Review*, (1886–1918); the *International Dental Journal*, from 1890–1905; the *Journal of the Allied Dental Societies*, from 1906–1918; and above all, the *Dental Cosmos*, 1859–1936. Of the older general dental journals still extant, the school library should certainly possess complete files of *Dental Items of Interest*, 1879– ; the *British Dental Journal*, 1880– ; *Dental Digest*, 1895– ; and the *Journal of the American Dental Association*, 1913– . Among the many excellent European dental journals *Die Fortschritte der Zahnheilkunde* deserves especial notice, since it was the best journal on the literature of dentistry in the world. As a bibliographical tool it has never been equalled by any other periodical.

Much has been said pro and con about the claims of proprietary professional journals and professionally sponsored journals. In deciding what a library should contain, the librarian, I believe, should make his criterion of choice the character and content of the journal without regard to its sponsor or publisher. (I must here interrupt myself to emphasize the fact that I am offering my personal opinion, and not attempting to represent the American Dental Association or its Council on Journalism, whose policy I have no authority to state or to interpret.) Librarians, I believe, should not attempt to censor dental literature; they should endeavor to make their collections represent it. Since there are many aspects of dental journalism, all of them characteristic of dentistry as it actually is, the librarian should endeavor to have the periodicals on his shelves reflect that diversity. It is to be noted in passing that the *Index of Dental Literature* has been wise enough to recognize that it can be a truthful index of that literature only if it includes proprietary journals as well as those professionally sponsored.

Proprietary journals have ranked all the way from those with the highest

professional standards, such as the *Dental Cosmos*, to the so-called throw-away journals. If I were a librarian and my stacks were not filled, I should certainly collect this advertising type of journal, although I have heard some librarians declare they would not soil their shelves with such publications. For the most part the articles in these journals are innocuous, not bad. But even if they should exert a positive detrimental influence on professional standards, I should still like to keep them, if possible, as records of the actualities of dental practice. It is the business of organized professional agencies, such as the Council on Journalism of the American Dental Association, to attempt to eliminate whatever they consider detrimental to professional dentistry, but as long as the publications exist, they are part of the dental "scene" and cannot be ignored by the librarian. However, they must, of course, give way to the superior claims of more useful journals when there is a problem of space. A distinction, too, must be drawn between the journal published by a manufacturer or a dealer who may have selfish interests to protect or to promote and the proprietary journal published by a commercial publisher who has no special dental product to promote. The Mosby publications, for instance, seem to me just as professional in character as those owned by dental organizations, and they can scarcely be called into question.

Among the most informative journals about which some question might be raised are trade and laboratory periodicals. By a trade journal, I mean a journal frankly devoted to the manufacturer's or the supply house's interests, not an advertising journal masquerading as a professional journal published by a commercial firm. The production and sale of dental materials, instruments, and equipment constitute an integral part of the dental composite, about which it should be desirable for dental personnel to learn from the point of view of industry. A number of acceptable journals of this sort are published, some in English and some in foreign languages. In English, *Proofs* and the *Dental Industry News* are useful; in German, *Dental Echo* is especially informative.

Only within recent years have the various aspects of dentistry been represented by specialized periodicals. Among the more than 250 dental periodicals which cross my desk, I can count 108 general scientific and technical journals other than state and local publications of which at least 75 are in a language other than English. There are twenty journals representing some special branch or interest of a professional nature, including three research journals, one educational journal, one journal devoted to public health dentistry, two to orthodontics, three to pedodontics, two to periodontics, five to prosthetics, two to oral surgery, and one to dental histology. With as extensive a selection as this the dental librarian can easily represent the various special fields of dentistry through periodicals.

There are several journals representing the auxiliary personnel of dentistry.

These include journals for the hygienist, for the dental assistant, and for the technician.

Dental schools, their alumni, or their students are represented by at least eighteen periodicals. Occasionally school journals represent quite as special interests as do proprietary journals, and are equally commercial. From certain points of view, the French students' journal, *La Voix Dentaire*, is a degrading influence, for it is certainly the most ribald of all dental periodicals.

State dental societies are represented in at least thirty-five periodicals, and local groups in the United States publish forty-one bulletins or journals. Most of the local periodicals are in the nature of news bulletins and, in general, are probably not interesting to most readers at a dental school. However, these bulletins in the aggregate record the professional interest and activity of the nation and are important to the historian and the student of professional trends in dentistry. These periodicals should not be despised, and if the library has the space, they are worth collecting. A number of the state organs reach the proportions and character of real journals.

Dental journals are the living record of dentistry in the making. They contain, not only the valuable additions to the storehouse of dental culture, but also the abortive attempts to contribute something worth while. It is because the periodical literature reflects dentistry as it really is, good and bad, that I believe it should be accessible to student, teacher, and research worker. As I have tried to show, the periodical dental literature is extensive enough and sufficiently apportioned among the many interests, activities, countries, and personnel to be amply representative. I believe every dental library should attempt to acquire as much of it as possible.

Stimulation of the Use of the Dental Library*

By Mrs. Arline Robinson, *Librarian*

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I DO not know how well you know us at the College of Physicians and Surgeons of San Francisco, but I know I will not have to explain what a dental library has, as I did once to a neighbor of mine who stopped me one morning on my way to work and asked me to bring her from my library a copy of the *Ladies Home Journal*. It is always exceedingly difficult for me to say "we don't have it;" so I found the desired issue at the College, but *not* in the Library. Our school is not part of a university or a medical school in spite of its name; so we have had to become quite self reliant. You will probably be more interested, then, in learning how we use what we have, and more particularly in how our students are guided to intelligent use of a dental library.

At the College of Physicians and Surgeons, the use of the library is an integral part of the dental student's education. I am not familiar with the curriculum of other dental schools, but I assume that there is some variation in library instruction and in courses requiring library usage. I will describe our curriculum to give you a basis of comparison.

During the four years at the College the students write papers for the following courses: freshman—Biochemistry of the Teeth and Dental Materials; sophomore—History of Dentistry; junior—Technical Composition; senior—Public Health Dentistry and Periodontia. The junior and senior students elected to Tau Kappa Omega, a scholastic honor society, must prepare and present a paper before that society. Outside reading assignments in other courses also require the use of the Library.

The course in library instruction given to the students in the first quarter of the freshman year is of the greatest importance in carrying out this program. The Course in Dental Literature is a ten hour-one unit course of lectures given by Dr. Henry Leicester, who was formerly the Librarian. I assist him in gathering the material and help the students with the assignments which he gives them. This past term, the lectures were recorded by dictaphone, and the records have now been transcribed. This is the first step toward the writing of a library manual.

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 18, 1953.

The introductory lecture traces the history of dental literature and dental schools, showing the relation of our own School and Library to the changing concepts in dentistry. After the first lecture the students are taken into the reading room for information concerning the location of the books and journals. Several lectures deal with the indexes, the abstracts, and the reviews. The four principal guides to dental literature are thoroughly explained, and students have practice in using them. Emphasis is placed on the following tools which the dental researcher must consult in order to cover the literature: *The Index to Dental Periodical Literature*; the medical indexes, *Quarterly Cumulative Index Medicus* and *Current List of Medical Literature*; the abstracts, *Chemical Abstracts* and *Biological Abstracts*; and the reviews, such as *Bacteriological Reviews*. Then there follows discussion of the dental literature itself. The students are given the following mimeographed lists: principal non-current dental journals, principal current dental journals, foreign language dental journals, dental college publications, and medical journals of special interest to dentistry. Some information about each journal is given. Succeeding lectures deal with the making of a bibliography. The students are taught how to organize material by making up a card file of references. Four assignments are made during this course: 1) a. Look up an assigned topic in the four principal guides to dental literature and indicate where references to the subject are found; b. Look up a topic in one of the early volumes of Black's *Index* and list the references found; 2) Compare two dental journals as to quality and type and discuss in a 1500 word paper; 3) Make an author and subject index to the articles in a journal; and 4) a. Make an abstract of an article in this journal; b. Make an abstract of an article in our school publication *Contact Point*.

The second assignment, the comparison of the two dental journals, is quite a strain on the Library. The students must have the unbound copies of the journals since a comparison is made of the advertising and the covers as well as of the contents. I accompany each freshman to the stack room to help him select the material. I sometimes shudder when I think how devastating it is to law and order to have 54 students each taking out about 50 journals, but this project does afford me an excellent opportunity to get acquainted with the freshmen and certainly they gain from the experience of using the material in the stacks.

Before the final examination in the course, the students have access to the examinations given in previous years. After studying these the students besiege me with questions. Doctor Leicester has humorously stated that I give the course all over again. Usually a group of students congregate for a "conducted tour" of the Library. I am sometimes amazed that some students come in several times for this review; it is an indication of their serious regard for this course, for a one unit course does not usually receive that much student effort.

The students have remarked many times about the value of Dental Litera-

ture to them. Since I do not give the final grade in the course, there would be no point in a student giving anything but his honest appraisal. I have questioned students concerning the library training received during pre-dental education. Three points have been emphasized by them: previous library training is of little value in using a technical library; previous papers required little work beyond finding a few textbooks; and since dental research is almost exclusively in journals, it would be impossible to know how to search the literature if it were not for the instruction received in using the guides to this periodical literature. Since 74% of our present freshman class have degrees, most of them must have had some library training and some experience writing papers. One student recently gave a very fine suggestion regarding the explanation of the early volumes of Black's *Index* which I am sure Doctor Leicester will try to use this next year.

Careful attention has been given to the arrangement of the material on the shelves to make the Library easy to use. Almost all the most needed journals are bound and are in the reading room. All the indexes, abstracts, and reviews are grouped together. Examples of other groups are: foreign language dental journals arranged by language, foreign dental journals in the English language arranged by country, and state and society dental journals arranged alphabetically by states. Since the rate of addition to a series and the size of the books and the width of the shelves complicates this scheme for a simple arrangement, I feel as though I have accomplished a minor miracle whenever I have shelved the books returned from the bookbinder. Because of this simple arrangement of books, anyone can be quite self-sufficient and can generally find what he wants by using three guides, the general card catalog, the alphabetical index of bound journals with the location of each in the reading room, and the master list of periodicals which lists every individual journal which the Library possesses and, if it is unbound, the location in the stack room.

The bulletin board and display cases are very helpful in stimulating interest in books and journals which, in turn, stimulates interest in the Library. The bulletin board provides a means of adding some humor. I prefer cartoons depicting something humorous related to a library or to books rather than to teeth or to dentists because there are other bulletin boards in the building which carry such cartoons. Four glass-enclosed cases in the corridor by the Library provide a means of displaying unusual periodicals and books. Two cases contain historical books and journals; the other two cases contain the foreign dental journals currently received. Our magazine rack in the reading room affords enough room to display only the most frequently requested current periodicals; so if I did not place these foreign language journals in these cases, there would be no way of advertising this material. It has impressed the students and the faculty because they had not realized the wealth of foreign language periodicals available to them.

The collection of bulletins and announcement of courses from colleges and universities has been a means of helping the Registrar and the Admissions Committee whenever a question has occurred concerning an applicant's predental education. The Library has been called upon to provide a catalog as far back as ten years; so I hesitate weeding out this file. The grateful smile and the very encouraging "the library has everything" acknowledgment when I have been able to unearth the needed bulletin amply repay for the trouble such a collection creates. The file of old alumni and dental society programs has been a means of boosting the esteem of the Library in the eyes of program chairmen who have needed to consult them. The medical and the dental directories, *Who's Who*, *American Men of Science*, and the *World Atlas* are items which have stimulated the use of the Library by others.

The Library is conveniently located so that students and faculty come into the Library office frequently, either to browse through new books on the reserve shelf or just to ask "well, what's new in the book business?" Often it may be just an idle question, but I make a point to tell the questioner of something in a book or journal that may interest him. One of the staff members recently commented on the excellence of the section on dentistry in a new book *The Psychology of Physical Illness* by Bellack. This is the type of comment I store in memory for future use. It was not long after this that a student confronted me with the "what's new" question; so I recommended that he read this. Within a few days I had five requests for this book! We are sometimes painfully aware how fast news travels at the College, but I am delighted when book news spreads so rapidly. The section "Leaves from the Library" in *Contact Point* provides a means, too, of publicizing new books.

The most recent indication that the students are being inspired to use the Library is the formation of "The Journal Club," which was started by a group of junior and senior students. Faculty members have been invited to attend the meetings which are conducted very informally. The group has been meeting for one hour every other Friday morning. It is assumed that most students read the dental publications, so emphasis is placed on the non-dental journals. Each participant discusses a scientific article having dental applications. We feel very encouraged because the students initiated this club and are looking for information of interest to themselves on a purely voluntary basis.

The Library at the College of Physicians and Surgeons has the necessary bibliographic tools, and it has a well-rounded collection. It plays an important role in advancing dental education because it is used.

A Comparison of the *Army Medical Library Classification* and the *Black Classification* for Use in a Dental Library*

By Mrs. Dorothy B. Dragonette, *Librarian*

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So far as I know, our Library at the University of Southern California is the only separate dental library using the Army Medical Library system. What I hope to do in this talk, therefore, is to show the advantages and disadvantages of a general medical classification in a special kind of medical library. On the surface, the answer seems obvious. But one often hears the remark made today that specialists are becoming too special, that they lack the broad cultural background necessary to become an effective part of society. For this reason, an argument might be made that a more liberal spreading throughout the classification of those dental books which also touch on other fields can, in itself, play a part in the liberalizing of dental education. This idea was suggested in the discussion of the advantages and disadvantages of the separate dental library as compared with a combined medical-dental library at the meeting of dental librarians in 1951 (1, 2). For the concept to be valid, however, students must have access to the shelves, which is the case in our Library, for all books except those having historical interest only.

On the other hand, those persons who believe a specialized classification is more effective will contend that it is an advantage to have all books pertaining in any way to that specialty grouped together. This would mean that books on anesthesia or radiology or pharmacology, to name a few, would be found in two different places in the dental library. Students would tend to miss one or the other section unless specifically told where to look.

The Dental Library at the University of Southern California, which had formerly been administered by the School of Dentistry as a separate unit, became a part of the university library system in September 1951. For several reasons it was decided to recatalog and reclassify the collection, using the *Army Medical Library Classification*. One of these was the fact that the AML number was printed (at that time) on Library of Congress cards for many of our books. This is not being done currently, we are sorry to say; however, the printed catalogs of the Armed Forces Medical Library have proved helpful. We do not subscribe

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 18, 1953.

to the AFML cards because our relatively small number of annual acquisitions does not warrant the expense, but that feature would be practicable and desirable in a large dental or medical library. The knowledge that the system is based on a living collection of books and will, therefore, be kept up-to-date was another deciding factor. Recataloging has now been practically completed, and we feel that it was well worth the tempora.y inconvenience. I am particularly grateful to Mr. Bruce Ferrell of the Catalog Department, who did the actual classifying of the collection and who kept a weather eye open for problems which might be of interest in this discussion. The opinions expressed are my own, however.

Briefly, for those unfamiliar with the *Army Medical Library Classification*, it is a system interposed into the *Library of Congress Classification*, using the letter W for Medicine and omitting letter R. Additions have been made to letter Q beginning with QS, Human Anatomy, and continuing through QZ, Pathology. Originally compiled by Miss Mary Louise Marshall under the direction of the Classification Committee, the Classification was first applied to Army Medical Library books in October 1946, was published in a preliminary edition in 1948, and later revised. The revised schedules in use at the Army Medical Library by October 1949 were published in 1951 as the *Army Medical Library Classification*, first edition (3). The schedules are intended to provide for the subject arrangement of monographs. Serials are grouped in a few form divisions under W. The *Library of Congress Classification* is used for non-medical books.

One of the effects of applying the AML system, as has been mentioned, was to disperse the dental books to a certain extent among non-dental books. Another result was to place more books in each separate section, or number, of the classification. In a collection of approximately 2000 monographs this is not undesirable, and it represents, in general, an economy in classification time. In some cases, however, this very simplification has been the cause of more time spent in classifying: in deciding where to put a borderline book, and in trying to remember, when its cousin comes along, where one put the last one. The index does not always help, and I feel that it requires more knowledge on the part of the classifier to apply a streamlined classification like the AML than the more detailed Black system. There are more subjective decisions necessary, especially when one starts from scratch and lacks a comfortable shelf list to rely upon. A detailed classification with optional expansions—which one does not use—would be the ideal.

You have in your hands copies of the dental section of the *Army Medical Library Classification*, WU. The asterisk indicates numbers to be used for both 19th and 20th century titles. Those numbers without the asterisk are applied to 20th century titles only.[1] Imprints before 1800 (or 1820 in America) are

[1] For note on AFML's 19th century classification modification see page 436 of this issue. [Ed.]

classed in chronological order under the History of Medicine, WZ. Numbers 1 through 32 are uniform throughout the classification, and there are a few other mnemonic aids. The number 100 is often used for general works throughout the schedule; 101 for anatomy when needed; sometimes 141 is used for diagnosis or examination. These numbers are not decimals, as they are in Dewey and Black. For purposes of comparison I used the second revision of the *Black Classification* issued last June (4).

Most of sections D and D8 of the Black system are included in the numbers 1 through 100, although they are a bit juggled. Some of the concepts in D5 are there also. To me this is a happy alliance, as it places the non-technical sections together rather than at either end of the classification.

WU 101 includes D11, Dental and Oral Anatomy, D12, Histology, and D14, Embryology (but not Dentition). This is quite a large section in our Library. WU 102, Oral and Dental Physiology, equals D13. Some space has been left here for added numbers. WU 113 equals D51, Oral Hygiene, but the other concepts in D5 are not included. If it were possible to have one's cake and eat it too, the section of the *Black Classification* which I would most like to transfer to AML is the expansion under D5, Dental Health and the Patient. More and more material is being written in this field, and it is a definite advantage to have it grouped together.

WU 140, Dental Medicine, was no doubt adopted to be consistent with some other parts of the classification, but it seems as though a very important part of the curriculum is being treated as a stepchild. At least, the members of our Department of Periodontics feel slightly hurt by the arrangement of this section. The numbers from WU 140 through 290 cover most of D6, Dental Pathology, with certain exceptions both ways. Dental and Oral Chemistry, WU 166, is found way back in D16 in the *Black Classification*. WU 190, Dental Materials, is D151. WU 230, Dental Pulp (Cementum), occurs in D63 of the Black system and also in D24, Endodontia. Actually, the books we have concerning diseases of dental pulp are books on endodontics. As a discipline, however, endodontics is still closely allied with operative dentistry. WU 210, Dentition, is to be found in D14, coupled with embryology in the *Black Classification*, and certainly the eruptive process is not pathological. The numbers between WU 240 and 260 seemed too detailed for books, so we adopted 240 for everything pertaining to Periodontics.

WU 300–360 includes most of D2, except that Pedodontics and Endodontia are omitted. The number WU 325, Asepsis and Antisepsis, seems unnecessary as a separate section under Operative Dentistry; at least we do not have enough books to justify its use. The Black system places sterilization of instruments in D21, but there is no mention of the larger concept.

The section WU 400, Orthodontia, is satisfactory except as to nomenclature. Orthodontists seem to prefer the *ics* ending. In fact, that is the trend in several

departments, but the *Army Medical Library Classification* consistently uses *ia*. There is less detail here than in the Black D4, but the number of books is fairly small. WU 480, Pedodontia, is closely related, although, of course, procedures in Pedodontics may include Operative Periodontics or Surgery. The number for Pedondontia is D27 in the *Black Classification*, under Operative Dentistry.

WU 500 is Prosthetic Dentistry. In this section there are only three divisions: 500, General Works; 515, Partial Dentures, Bridges, Crowns; 530, Complete Dentures. This compares with 8 divisions in the D3 section of Black. The distinction between 515 and 530 gave us some trouble. In the *Black Classification* Partial Dentures are under D32, the number for Dentures; Crowns and Bridges are D33. In our curriculum the Department of Fixed Prosthodontics is distinct from Prosthodontics, which includes complete and partial dentures. As you can see, most of the sections under D3 are classified in the general number WU 500 in the *AML Classification*.

WU 600, Oral Surgery, also includes 3 sections: 600, General Works; 605, Exodontia; 610, Fractures and Dislocations of the Jaw. This compares again to 9 divisions in Black's D7. D761, Surgery of Cleft Palate and Harelip, is classified in WV 440 under Otorhinolaryngology.

Other sections of the *Black Classification* which fall outside the scope of WU are the following: D61, Dental Bacteriology, is in QW 65 with Bacteriology in general; D9, Dental Anesthesia, is in WO460—with other books on anesthesia in the general section Surgery, WO. This is particularly desirable, I think.

D781, Dental Jurisprudence, is classed in W 600 (for 19th century titles) and W 705 (20th century). The explanation of this is rather interesting. The full schedule is intended to be applied to 20th century titles, while 19th century books are assigned only selected numbers (indicated by an asterisk). But in a few instances there are numbers which are used for 19th century titles *only* (marked with a double asterisk); W 600, Medical and Dental Jurisprudence, is one of these. For 20th century books W 700 is Medical Jurisprudence and W705 is Dental. Of course, a library could omit W 600 if it did not have enough books on that subject to make the distinction worth while. Laws Governing Dental Practice, however, are classed in WU 32 and Malpractice in WU 44. In the *Black Classification* all of these concepts are together under D8. Incidentally, reviews of dentistry prepared for state board examinations are not listed specifically in the index to the classification. We found examples in the *Armed Forces Medical Library Catalogs* classified in two places, WU 18, Study and Teaching, and WU 40, Licensure of Dentists and Dental Hygienists.

D69, Dental Pharmacology, is in QV 50 with other books on pharmacology. To divide these would seem to be splitting hairs. D841 and 842, Army Dentistry, are classed in UH of the *Library of Congress Classification*. I would prefer both this and VG, Navy Dentistry, in the dental section of the classification, as there is very little interest for us in the Army or Navy apart from the

dental aspect. D583, Industrial Dentistry, is in WA 412 and Medical Services, under Industrial Health and Hygiene in the section on Public Health. One might argue here also that anything which concerns *practice* of dentistry, as this does, should be in the dental part of the classification in a dental library. Nursing in Dentistry is classed in WY 155, Nursing in Special Fields, but we have no books in this number, nor is there a provision in Black for it. School Dental Clinics (D58?) go in WA 350, School Health and Hygiene, but one might prefer to use WU 113 because of the relationship to oral hygiene.

Bibliographies falling within the scope of the *AML Classification* are given the letter Z followed by letters indicating the subject, for example ZWU 11 would be a bibliography on the history of dentistry. Other bibliographies are classed according to the *Library of Congress Schedule Z*. In the *Black Classification* the number for dental bibliographies is D014 and subject bibliographies are placed with the subject. I personally prefer having all bibliographies together on the shelves, since they are scattered subject-wise in the catalog.

The *Army Medical Library Classification* is applied in our Library to monographs and serials (for the latter we use the number for societies, WU 1, etc.). Periodicals are unclassed. Because of the size of the collection we do not use Table G, which is a geographical arrangement applied to certain numbers in the classification. Under History of Dentistry, WU 11, we cutter by place (if applicable) and under Dental Schools, WU 19, by the name of the school.

As you can see, we have modified the classification in certain respects, or adapted it to the dental collection. Mr. George Scheerer, in his review of the 1st edition of the *Army Medical Library Classification* (5), made the statement that the classification has the essential elasticity to adapt to the local requirements of a library. This has proved to be true in our case. Whether the Black system would unlock the stores of the library more easily for the user is a question no one can decide with finality. In my experience both have been satisfactory.

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The Dental Library in the Organization of a New Medical Center Library*

By Alba Eldredge, *Librarian*

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A NEW medical center is in the process of building on the property owned by the University of California in San Francisco. As in most all building matters, the completion of the work has been delayed, so this paper will largely deal with the philosophy of reorganization and with a description of the physical plans as they are today.

This July will begin the molding of the reorganization plan. The plan has received the approval of the Library Committee of the Academic Senate, but because of the present limited quarters will not be put into full action. Therefore, the reorganization will be gradual and the necessary modifications and changes will be made before moving into the new building.

The functions of the Medical Center Library are to serve and make available material for students, research fellows, and faculty. Heretofore, each collection has been a separate unit in charge of a librarian responsible to the School of Medicine and the Colleges of Dentistry and Pharmacy. It now will be a single unit under the direction of a librarian, who as a member of the faculty will be the policy and liaison officer. Holding such a position the Librarian will be in a position to interpret the library to the faculty, as well as to take part in the University policy organization. In time there will be an administrative librarian to carry on the professional and business activities of a medical library. It is hoped that in this manner the resources of the Library will be more extended and at the same time adequate control may be maintained.

The University of California has maintained in the past such libraries as those in the Schools of Medicine and Nursing, and the Colleges of Dentistry and Pharmacy. Each of these has been a separate entity as regards funds and personnel. The cataloging and ordering have always been unified, but with the new organization still further unity will be accomplished. This will include circulation, binding, serials, and interlibrary loan. With the removal of these duties, the subject librarians will be able to carry on better reference work and have more time for bibliographies and assisting in the search for material. They will also be able to confer with the faculty regarding choice of material needed,

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 18, 1953.

and the methods of presenting it to the students. The education of the student in the use of a technical library is most important and there will now be more time for instruction courses.

The new building unit into which the Medical Center Library will move is to be part of the Medical Science Building, which building will be a modern fourteen story structure, especially designed for education and research. It will house class rooms, laboratories, and divisional offices. There will be lecture halls for the medical and nursing schools, and dental and pharmacy colleges. This building is said to be the only such structure in the West which houses four schools of health and medical sciences under one roof. The second increment of the building plan will be a wing which will house the library. Construction will begin on this unit as soon as the first part is completed, which will be Summer 1954. As part of a large building the library planning is from the inside outward, that is in terms of internal functional considerations rather than following the requirements of a library structure.

Since a library is the center of all intellectual pursuits of a medical center, the location should be well in the center of activities. It must not be too difficult for the busy physician to reach and yet far enough from the general traffic of patients and friends to dissuade the use of the library by the curious. To gain these objectives, the new library is located back from the entrance of the building and up a short flight of stairs. The library entrance is through a lobby, large enough for display cases. The circulation desk is so placed that it covers this entrance.

Since medical literature falls into three categories—recent, transient and classical, and historical—the arrangement of the library follows the same order. The recent material is to be arranged in alcoves of the main Reading Room. The open stacks on this floor are to contain the second category, while the historical material is to be housed in a separate room on the upper floor. It will probably be necessary to have another librarian in charge of this collection.

To return to a description of the Reading Room: the alcoves, some twenty-eight in number, will be approximately twelve by ten feet. Four persons may be seated in an alcove and yet passage way to the shelves is permitted. Each alcove will contain the texts, monographs, and bound journals of the same subject. The runs of the journals will be about ten years, or whatever the demand may be. The earlier runs of the journals will be in the open stacks and a guide to their location will be found in the alcove. The stacks will be open and since all medical studies are carried out on a postgraduate level, the loss should not be great. However, what loss there is will be covered by the budget.

A Browsing Room is to be located off the lobby and opposite the circulation desk. This room is to contain biographies, general aspects of medicine, and the lighter writings. Here will be easy chairs and the comforts of a private library.

A stack area will divide the Reading Room, and in a way make this area

easier of access from the alcoves. A reference section will be placed near the circulation desk and adjacent to the catalogs. Here the reference librarians of Medicine and Nursing, Dentistry and Pharmacy will have their desks. All reference texts and reading requirements will be here too, to be of easy access to the reference and desk attendants. This will eliminate a reference room and a duplication of material. It is hoped not only that this will be more convenient for the student but that better supervision can be maintained. To the far side of the Reading Room will be the Periodical Room. This room, as part of the Reading Room, has no other entrance.

Below this floor, to which the stacks extend, will be the administration offices, the catalog room, the receiving and packaging department, the photographic laboratory, and the staff quarters. As special arrangements are needed for student study groups, carrels are to be built along one side of this floor. A stack elevator, large enough for book-trucks, will connect all floors but will be restricted to library personnel.

A third floor is planned to allow space for carrels for the faculty and graduate students. Here too will be found the Historical Room. Most of this material is priceless and will be kept under lock and key; another librarian will be in charge. In the halls outside the Historical Room will be space large enough to allow for display of archives and documents relating to the School.

There will be space over the main reading room for a roof garden. This will open off the Historical Room and may be used by the staff and readers, the weather permitting. In the planning for the future, space has been considered in the making over of the Roof Garden, and on the lower floor the building may be extended outward. The structure, as planned, should allow an increase of 250,000 to 280,000 volumes before any additional building is necessary.

From the above description you will see that the Dental librarian will be released from the routine library duties and made more available to those who need reference and bibliography aid. She will select dental texts and periodicals with the advice of the dental staff, and she will have more time to keep up with the periodical literature, both dental and medical.

The Dental Collection is kept together by the use of the *Library of Congress Classification*, which classification has been found most satisfactory in this library. This means that the dental texts, monographs, and bound journals will come together as a unit in the classification, and therefore be housed in alcoves devoted to this subject. The other material which a dental student must use, such as anatomy, histology, and physiology, to mention a few, will be found in the appropriate place in the medical collection. In this way a broader education in the use of a medical library will be attained.

It is hoped that this background will enable the student of dentistry who goes to other libraries throughout the country, without too much help from those in charge, to find the information he needs.

Some Secondary Tools in Reference Work*

By Mrs. Gertrude M. Clark

Los Angeles County Medical Association Library
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JUST before I left Los Angeles, we had a call from one of our members requesting information regarding an emergency treatment of snake bites by way of freezing. I told the doctor I hoped to have the information soon, since it did not sound too urgent. "All right, I'll tell the snake to wait" was his slightly disappointed reply. But we cannot always count on a cooperative snake. It is to meet the need for quick answers that we have developed the "home-made" reference tools I would like to discuss today.

Our Library attempts to serve not only over 5,500 members of the fast-growing Los Angeles County Medical Association, but also many scientists who work in close affiliation with some of these physicians. We furnish extensive reference service; we search and undertake research. As defined by Mrs. Edith Dernehl in her excellent paper "When does search become research," which appeared in the Bulletin for October 1941 (1), "The object of search is to compile; that of research to analyze and evaluate." We frequently have to go to the articles themselves to ascertain whether they contain the desired technique, or add original thought to the conclusions of other authors.

We compile bibliographies, or assemble "package libraries" on a desired subject, confining the material to the most important and recent thoughts. Many of our requests are emergencies, some genuine and others due to the forgetfulness of busy doctors who request information for that important paper the day before it is due. We have found it a good policy to fill even routine requests whenever possible within two days, since it is difficult to find time to pick up older requests with the steady influx of new research problems.

One of the primary purposes of library-made reference tools is to help find information faster than would be possible by going through standard indices and text books. To satisfy this need, our Library has developed several "home-made" or "intra-mural" reference tools, five of which this paper attempts to describe.

First there is our file of bibliographies with about 1000 entries. Then there is the loose-leaf "black book," and the drug files on cards, both recording recent developments compiled from articles and news items selected from current journals. A very similar system is described by Mrs. Irene Strieby of Lilly Laboratories in her article "Reference files in a pharmaceutical library" which

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 18, 1953.

appeared in the BULLETIN for April 1947 (2). The Lilly laboratory system is more elaborate and is kept as a permanent record; it includes an abstract for each article listed. Our two files serve the same purpose on a temporary basis and are discarded when the *Quarterly Cumulative Index Medicus* for that particular period has been received. A third tool is a file of future and past meetings of medical organizations. The fourth is a subject index to current journals. Fifth and finally is a file of articles published by the members of our Association.

The most important tool, possibly, of those which I want to describe is our Bibliography File. We have a special form in our Library used to record the result of library searches. On a separate sheet we note the date the information was compiled, the name of the doctor making the request, and the subject of our search. We file the lists under standard subject headings with cross references from headings not used. When the subject covered by the bibliography is in frequent demand and the available material not too extensive, an attempt is made to keep bibliographies up-to-date. We use a short entry form giving only the source of the material, i.e. abbreviated title of journal, or author and title of book, and the month, year, and page. This file also contains short bibliographies obtained from other sources, such as pharmaceutical companies and other libraries. We do not discard these lists, as a rule, since they have been found useful many years after the search was completed. When we have a request, usually the first step is to consult the bibliography file to see whether there is already a list of references. It turns out that there frequently is, and we save many hours of work.

The second set of tools we have developed is our Black Book and the Drug File. We have found it convenient to keep track of new developments noted in the current journals in two locations. The general material is kept in a loose-leaf binder usually called the "black book." We record articles which we think will be of interest to our members: new developments in treatment, diagnosis and etiology of diseases, new surgical technique, unusual conditions, new societies, surveys, particularly on the local level, and a few comprehensive general review articles. This information is kept under broad subject headings, such as Eyes, Paralysis, Societies, Organizations, etc. Many of our doctors have come to know this book and refer to it directly.

The index to articles dealing with specific new drugs, or new uses of older drugs is kept on standard 3 x 5 library cards. We list under the most commonly used name, proprietary or scientific. There is a separate card for uses of a drug and one for side effects. Both files contain many cross references; those to the "black book" are kept in a separate folder for the sake of more convenient referral. We use a short-form entry, first author's last name, abbreviated title, and location in journal. In both files we keep a separate record for each calendar year in order to facilitate later discarding.

The third tool was developed rather recently when it became apparent that some method would have to be found to deal more adequately with the many

requests for information in regard to medical meetings. Our Meeting File has a separate card for each meeting or congress, with a colored tab indicating the location. We attempt to keep track of international, national, and local meetings as we go through the current journals. We record the place and inclusive dates for each meeting, also advance programs when announced. At the bottom of the card is a note indicating where the notice for the meeting was seen. We have separate files for future and past meetings which we intend to keep for three years, because we have a surprisingly large number of calls regarding them. The file is useful also as a key to possible sources where abstracts of papers presented, officers of the organization, and future plans can sometimes be found.

The fourth tool is a Subject, Form, and Language Index to our current journals, which is particularly important in our Library where we file and record periodicals under the title. It has been found more convenient to keep this information in a separate file, although I am aware that some libraries have developed a system of coding the journal records directly. For this file we use broad subject headings and the form index is so far confined to indices and abstract journals. This file also incorporates some cross references from the more obscure and local organizations to their publication. An example of this sort of an entry would be "Huntington Memorial Hospital, Pasadena. For publication see: T.P.R." (Temperature, pulse and respiration.) Who would think of looking under T.P.R. for news items regarding this hospital?

The last tool which was started in 1949 is a card index to articles published by members of our organization. We refer to it quite frequently for material by a member, but also for information regarding a subject when we know the special interests of the doctor.

As Martha Mann says so well in her article on "The fine arts of indexing" in the BULLETIN for January 1949 (3), "Professional nomenclature presents a real problem . . . Overlapping terms, various spellings, different endings . . . offer a constant challenge." We run into these problems frequently and cannot take the time to verify and search far for the best ultimate solution. Our policy is to record under the term most commonly used, or when we use established subject headings, to make a cross reference from the more popular terminology. We cannot hope to have a perfect tool, but we keep in mind that it is meant to supplement and reaffirm the librarian's memory, an imperfect tool, also.

We know that other libraries are facing similar problems and that many of you are using similar intra-mural reference files. We would like to hear what your experiences have been and what you think of the relative merit of similar aids.

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The Pharmaceutical Library of the Future*

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In considering the pharmaceutical library of the future, the first question is to answer, "What *is* the future"?[1] The date of 1975 is chosen arbitrarily; a shorter period is undesirable since it would not provide sufficient time lapse for the development of ideas currently under discussion. On the other hand, a longer period would allow too many changes outside the realm of one's ability to crystal gaze. For example, how many persons, if living a half century ago, could have predicted television, nuclear fission, and jet propulsion? Or to express it in terms of "library economy," who then could have envisioned automatic charging machines, electronic scanning, and audio-visual installations in libraries?

The logical starting point for this prognosis, if we may borrow a medical term, is the librarian. First, looking backward instead of forward for a quarter century, we have witnessed a gradual change taking place in the manner of choosing this person. It was not too long ago when it was thought anyone who "just loved books" could manage the library. It was usually taken for granted that the book lover knew how to file, could learn to type, and would soon acquire knowledge of the organization in which he was chosen to serve. The fact that he did not know how to organize and to administer a pharmaceutical collection was not regarded as too important.

Now imagine we have reached 1975; the situation has changed considerably. The school administrator, in order to meet accrediting standards revised to include greater emphasis on library facilities, demands a librarian well equipped for the position. The pharmaceutical company executive employs only one who can demonstrate that he is able to give service equal to or better than what is available in any competitive organization. In the meantime, a few library schools have turned their attention to the education of these librarians. Some have experimented with science prerequisites, while others worked out a cooperative training arrangement with pharmacy schools on their campuses, which

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 16, 1953.

[1] At the request of the Program Planning Committee, the emphasis of this discussion has been placed upon problems developing from the steadily increasing flow of publications.

training enables graduates to function more efficiently at the outset, thus saving the time of all concerned. The net result of supply and demand is a greater number of promising students, eager to be selected for training in literature work which assures them positions in industry or in schools equal in salary and status to other comparable positions available there.

In the years intervening between World War II and 1975, the subject of documentation has been uppermost in the minds of those who produce, make available, and use scientific literature. Furthermore, the tempo of research, increased five-fold, has caused everyone to demand quicker and better means of acquiring information. The problem has been the subject of innumerable conferences and essays, as well as the principal study of several organizations. Although no individual is yet assured that he is keeping abreast of mass publication, out of these efforts have come many improvements. Some are slowly emerging from the experimental stage even though their potential use is far from being utilized, not only due to the cost but also because their application to the smaller library does not appear practicable.

Because the individual wants so much from abstracting—abstracts tailored to fit his own specific needs, abstracts available as soon as the original article is off the press, abstracts indexed promptly upon a cumulative basis—it has been impossible to find the one best method. Many years ago the trade association representing the paint, varnish, and lacquer industry underwrote the cost of abstracts in its particular field with some degree of success. This service, adopted by others, has not entirely obviated the necessity for the scientist to discard scanning the literature of cognate fields; it has, however, made his task, as well as that of the librarian, much simpler. Medicine, chemistry, botany, bacteriology, physics, nutrition, chemical engineering, and market research are among those fields which pharmacy cuts across. Because it could not be sharply defined, there has been no development of this kind sponsored for the pharmaceutical field although exploration continues.

For the most part, librarians have abandoned the preparation of abstracts for a service inaugurated in 1960 which supplements abstracting journals still available on a subscription basis. The new service is that of multiple copies of tables of contents mailed to library subscribers at a nominal cost upon the same date as publication of the journals. These are distributed to individuals immediately upon receipt. Not only does this make the routing of journals unnecessary but it gives the individual broad coverage of scientific literature. Nor has the plan decreased personal subscriptions; publishers' revenues have been maintained. There is a current prediction that titles will soon be available on separate cards, a plan which will enable the scientist to maintain his reference file cards with correct bibliographic citations, upon which he can make his own notations.

Since 1950, personnel of smaller libraries have eagerly awaited the application

of machine methods to their indexing problems. Although individuals working in specific fields, or larger groups by pooling their efforts, have successfully used these devices for recording data since the days of World War II, it is only here and there that some enterprising librarian of a small collection has reported extraordinary success. However, possibilities for the librarian have developed in other areas. For example, the final outcome of experiments conducted at the Massachusetts Institute of Technology Center for International Studies and at the Johns Hopkins Medical Library opened the way for a practical application of machine methods to abstracting. *Chemical Abstracts*, *Excerpta Medica*, and *Biological Abstracts* are now available on IBM cards. For those whose use does not justify the expense involved, abstracts are still available in their present printed form.

At least a dozen dynamic documentation centers for information retrieval have developed in the United States since 1950. Rather than provide information on all subjects, these centers concentrate on one or, at the most, a few allied subject fields. The facility used most frequently by the pharmaceutical profession is located in the midwest. Sponsored by the trade associations rather than supported by federal aid as advocated by Mandeville (1), services are available to non-constituent members on a fee basis. Here are found consultants, translators, files of doctoral dissertations, copies of patents issuing in all countries, special indexes revised periodically in line with advancing knowledge, and up-to-date bibliographies on a multitude of subjects. Pharmaceutical librarians are able to contact any one of these centers quickly or they can refer the researcher, the professor, or the graduate student who needs information beyond the scope of his library to the center best suited to his purpose.

All modern facilities for the reproduction of documents and other special material are available in the center. Machine methods for searching are used, for it is *here* that they have proved economically feasible. Experts can use machine language to put into the "brain" what users expect to get out of it. However, as an editor said of a mechanical calculator twenty-two years ago, "the further we go with it, the more conscious we become of the unique capabilities of our own more complicated, more compact, and infinitely more efficient brains" (2). On the other hand, Williams, in discussing the possibility of total searching, pointed out, "A machine doesn't get tired or decide it has gone far enough when it has reviewed 'substantially' all of the material available" (3). Although there is some difference of opinion, no one would be willing to return to the age of wishful thinking.

A significant development for smaller libraries is intercommunication by facsimile, described enthusiastically by Adams in 1953 (4). He said:

> Consider the predicament of any one agency library. Since man's information wants (in theory) are infinite, any agency library needs access to vast repositories of information. Since man's satisfactions are finite, we have to be content with smaller, more highly selective work-

ing libraries. We are fortunate that in the larger libraries there exist vast repositories, and that we have free access to them. We can't afford to emulate the large libraries, nor is it necessary.

Our objective should be to develop the best working collections possible, and to improve communication techniques that will permit supplementing limited resources more quickly, more cheaply, and more effectively than is possible at present through buying or borrowing. Herein lies the library significance of facsimile communication. It is a technique for the transmission of print from one library to another, making available for the use of library patrons all the information resources of the Federal government.

The author showed the cost to be less than that of interlibrary loans; record keeping was reduced; retention copies were available; and little or no delay was experienced in securing information. Just as he predicted, improvements were imminent, for now entire page scanning by television is possible. Fortunately, pharmaceutical libraries are always units of larger organizations where installation of facsimile equipment is financially possible; the disadvantage in its use is the demand made upon the scanners and recorders by other departments of the school or industry.

Further aids to documentation have been developed to the extent that they are now a *must* in many libraries. For example, the Polaroid Land Camera can be used to photograph a page in exact size and even the relatively inexpensive Contoura has now become a one-step process; both are in use every day. An improved Xeroxing machine is standard equipment in libraries where a great deal of duplication is necessary. By and large, the best all 'round gadget we have in the smaller library is that described thus by Clapp in 1953: "A copying device that would permit the scholar to go into the library, scan the material line by line, and leave with a convenient roll of tape containing an exact transcription of the desired information. . . Such a device, an 'electronic pencil', has been developed, but is not yet commercially available." (5)

Although all agree that an international scientific language would destroy many existing barriers, publishers, writers, and librarians feel as if it is still far away. They held a joint conference, however, in 1963 which pointed the way toward solving many common problems. Librarians then gained the sympathetic ear of publishers when they complained of ring binders for books of lasting value; of book spines where no room is left for a shelf number; of charts printed on end papers; and of indexes woefully inadequate. Many of these annoyances, particularly those in the periodical field such as inaccessible tables of contents, rewards for *new* subscriptions only, and change of format in the middle of a volume, were listed by Evans ten years prior to the conference (6). Brodman also editorialized on the subject the same year (7). Perhaps the most significant step forward was the general agreement to adhere to the International Code covering abbreviation of periodical titles, bibliographic citations, periodical layout, and photographic reproductiou. Many members still recall hearing the reports of Committee Z 39 of the American Standards Association which worked with the International Standards Organization for adoption of the Code.

Even if the problems of documentation have come in for the lion's share of this discussion, there have been many others, some specifically related to pharmaceutical libraries. All too long librarians worked with an inadequate classification system; in many libraries the subject was treated like a stepchild. Some of you will recall what was available in 1950 and how difficult it was to expand any of the systems then in use. In 1955 a group of librarians, in discussing mutual aid projects, agreed upon classification as the problem most deserving of attention. There followed a decade of hard work but the result is a joy: there is now available a system with emphasis on pharmacy in its proper relation to chemistry, medicine, and auxiliary sciences, with due attention paid to manufacturing and distribution. Fortunately, it is developed within the framework of a new universal system advocated by Wells (8).

To be sure it has not always been possible to integrate this new system with older schemes still used by general university libraries, especially if central cataloging is maintained. However, pharmacy schools are more and more concerned with the training of students who will earn their living in a profession dependent either upon the manufacture or distribution of drugs or both. On a campus where pharmacy is housed with medical and dental collections, there is some possibility of using the new classification in an attempt to expand whatever system is now in use, but the chances are that the business aspects of pharmacy will still lack recognition or go into one general heading such as *Pharmacy-Economic aspects*!

The classification system was such a success that the next project was a new subject heading list for pharmaceutical libraries. It took five years to develop it, followed by five more of experimental use, so only this year has it been printed for distribution. It is as useful as the classification system in placing material in its proper perspective, not only for the pharmaceutical industry but for the pharmacy school as well. The list has attained such a high degree of excellence that it will justify the time and expense necessary for its adoption. It provides, of course, for insertion of new headings as well as headings for the general reference books needed in any library, large or small.

Pharmaceutical libraries have benefited from scientific library management, now emphasized in every facet of operation. Such simple expedients as the LC card numbers in publishers' announcements have speeded work for the cataloger and hence for the ultimate user of the book. In line with developments in work simplification has been the cooperative production of job descriptions, based on careful analyses made of positions available. Qualitative and quantitative standards have been developed during the past twenty-five years, also the result of collaboration among librarians with the encouragement of their employers. As a consequence, it is possible to keep continuing inventories, not only of literature holdings, but of the cost and effectiveness of library service as well.

Up to now nothing has been mentioned concerning the physical construction of the library. This subject was adequately covered by Hand, Moore, and Runge

in "The special library of the future" wherein they told in detail how use was made of acoustics, air conditioning, day lighting, and color in the library of 1975 (9). The Precipitron, which they described, has proved to be of particular significance to libraries. A major factor in planning were the symposia sponsored by special librarians in which library architects and consultants participated, with reports appearing in architectural as well as in library journals. Not only were new library quarters and equipment discussed, but due attention was given to the rejuvenation of those built in 1950 and before.

Equipment in the library of 1975 is, as Hand and others had said it should be, of light material in order to reflect the light (9). Extraordinary attention has has been paid to the comfort and convenience of the user who, after all, is the most important person in the library. Delivery ports have lessened commotion in all types of libraries. Study carrels as well as special rooms for the use of typewriters, for microfilm and microcards, wire recorders, and television are provided. In 1970 it was possible for one of the staff members who could not secure a reservation at Atlantic City both to hear and to see a portion of the American Pharmaceutical Association meeting via television!

Possibly the most remarkable improvement in physical facilities is the fact that the library quarters do not occupy a great deal more space than they did in 1950. There are two chief reasons for this, both due to the impact of cybernetics: (1) mechanical equipment has simplified operations to the extent that fewer clerical helpers are needed, and (2) the use of microcards, microfilm, teletype, and facsimile has reduced book storage space far in excess of the additional space needed for normal growth and for housing indexes on IBM cards. Better service is a corollary of this improvement. Is this not the Utopia we have long awaited?

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Faculty and Student Use of the Library*

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THERE is innate in each of us the desire to transfer our personal enthusiasms to those with whom we come in contact. To be sure, the fertile field offered for such a process is the greatest compensation of the academic way of life; if that attitude were entirely suppressed in us, we as educators and librarians should certainly soon desert our chosen professions for other callings. It is no small satisfaction to know that in an associate we have been responsible for igniting a faggot of interest or of fanning into flame a spark of enthusiasm in an area of our own participation. On the other hand, it is no small discouragement to realize at times that we do not, or cannot, elicit the same responses in every young person subject to our tuition, and we are at those times somewhat inclined to exaggerate the conditions as we see them.

More immediately, there is in each of us the desire to evoke in our students a deep interest in the library and to develop in them a facility with its use which would adequately serve that interest. It is a generally deplored fact that too few students enter upon their collegiate career with any training at all in the use of the library. It is, further, a generally recognized fact that pharmacists must have some knowledge of basic references and texts in order to locate quickly information they are going to be called upon to give. It would be difficult for students to escape even the most cursory curriculum in pharmacy without learning these fundamental works; however, the prospect of their doing exhaustive, bibliographical research on a particular topic (and it is not at all unreasonable to propose that many of them will be presented with just such a problem) may justifiably set forth in us a concomitant and sympathetic shudder.

Our problem appears to be, first of all, to create in our students the desire—and if not the desire, the need—to use the library, and secondly, to offer them the vast resources of the library as a satisfaction of that desire or need.

There is no one means to this dual end. Many excellent ideas have been proposed by both educators and librarians. Dr. Carter Alexander of Teachers College, Columbia University, in 1937 (1) focused the attention of the teachers of pharmacy on a possible solution: the introduction of a formal course in the

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 16, 1953.

use of the library, requiring on the part of the students the completion of exercises in a handbook designed specifically for use in pharmacy libraries. His point of view was corroborated the following year by Professor Edward J. Ireland (2) of the School of Pharmacy of the University of Florida, who described library assignments he had used. Professor Ireland mentioned *Chemical Publications* by Melvin G. Mellon as a text after which the pharmacists might pattern their handbook of exercises.[1] Dean William A. Jarrett (3) of the Creighton University College of Pharmacy, reported that he incorporated library orientation with a freshman course in "Fundamentals of Study." Elizabeth W. Johnson (4), Librarian for the Philadelphia College of Pharmacy and Science, has suggested that beginning students be given a diagnostic test during their orientation period to determine who among them have had effective and adequate training at the pre-college level so that a course of study could be concentrated on those who fail the test. By and large, her course plan would follow those proposed by the earlier writers: specific exercises applicable to a wide variety of topics so that one of them could be selected by each student as a subject for a thorough library search, both topics and exercises designed to lead pharmacy students into good bibliographical habits. Most recently, Dean Charles H. Rogers and Mary Agnes Wolfe (5) of the University of Minnesota have presented their views along these lines. In addition to their "lecture-laboratory" classes in the use of the library, they introduced a most interesting device aimed at creating the desire in their students to read: they posted monthly a list of required reading, by classes, the material being graduated from "interesting" topical articles for the freshmen to "informative" technical articles for the seniors.

That the educators are interested in our problem is indicated in that all of the proposals just described were presented before meetings of teachers of pharmacy and subsequently published in the *American Journal of Pharmaceutical Education*. That the librarians are interested in the problem is indicated in the solicitation of this paper. That the students are not interested is our problem. It is trilateral; neither the teacher nor the librarian nor the student can solve it alone.

With the problem defined, the interest established, and the previous approaches summarized, we may now project some thoughts toward possible solutions. It goes without saying that we cannot create in our students a bibliographical desire of any consequence until they feel "at home" in the library; in this matter, there is obvious agreement from representative faculty members and librarians that formal training of some sort in the classroom and in the library is of first importance. At the outset several questions arise.

[1] It may be of interest to note that, while attending Purdue University, I took Dr. Mellon's famous course in chemical literature, and I have found it a continuing source of satisfaction. At Purdue the course was required of all chemistry majors and chemical engineers and was sought after by many of the graduate students in pharmacy.

The first: How much time should be devoted to the class and to the "laboratory"? One or two clock hours? One or two afternoons? Should we offer a complete, one-credit (semester or quarter) course, scheduled for three clock hours of instruction weekly, the time divided so that the first hour would be spent in formal instruction, the last two in application of that instruction? Or should we give an even more complete, two-credit course with one class period and one library research period a week? The answers to this question of time must vary with the colleges concerned. Certainly, those of us who are deeply interested in the matter must suggest, wheedle, insist on some instruction, and as much instruction as our administration can allow.

The second: How far are we to go in our teaching? The answer will depend, of course, on the length of time given the course. With the trend toward expanded curricula in pharmacy to support a more professional graduate, it is not unreasonable to *hope* some day for time to administer fairly complete library training.

The third: What are we to use as exercises? Some are extant; some in use are out-of-date. The completion of a handbook would seem a commendable project for a joint committee of educators and librarians. If such a manual can be looked to for wide acceptance, it would necessarily have to be most flexible; perhaps each exercise should have its priority indicated, those of first priority being essential to all lessons, no matter how short, those farther down on the priority list being geared to more extensive courses.

The fourth: Should we exempt those students who have had some introduction to the library at the secondary school level? Here the answer will be influenced by our decision on how much material we plan to teach. If in the time allotted we can offer the students no more than they already know, their presence in the classroom will be unnecessary and demoralizing. Another factor in our answer is the diagnostic test; if it is sufficiently selective, the exemptions should be made. However, high school library instruction is too frequently limited to introductions to the card catalog, the *Readers' Guide*, and the *World Almanac*. Certainly in a curriculum for the education of pharmacists of the professional caliber desired by present day colleges, a place must be made for work beyond these fruitful, but non-technical sources.

The fifth: Who is going to teach the course? By all means, this assignment should be made a cooperative effort of the librarian and at least one interested faculty member. Barring unwieldiness, it might even be recommended that a representative from each department of the college (pharmacy, pharmacognosy, pharmacology, pharmaceutical chemistry, and pharmaceutical administration) be called upon for supportive lectures on the literature in the special fields with which the graduate pharmacist should be acquainted.

With some instruction, designed from the foregoing (or other) suggestions, the barrier of ignorance should be lowered, and the students should be at ease in the environment of the library. Now the problem appears of maintaining

their interest in things bibliographical. This endeavor too must be a cooperative one. Let us enlarge on the Minnesota plan (5) of posting monthly reading lists by suggesting that the librarians, as the first persons usually to see incoming periodicals, be alert to articles which would qualify for the list.

Faculty members should need no prodding from the librarians, but those who would notify the librarians of their fields of interest and those of their students would no doubt be grateful for current references in the areas noted with one or two line abstracts. Simple forms filled out and sent to them would suffice. A system of this sort would serve to draw the faculty into the picture.

The posting of reading lists would require that each interested instructor anticipate his lecture topics by a month or so, and with the cooperation of the faculty, the students would be induced to use the library, and the faculty members would need to read the articles as well in order to stay ahead of the students! And, by no means, should the journals themselves be furnished to the professors; getting them back is a problem in itself, and more important, getting the teaching staff into the library regularly is half a battle won.

Here, with regard to staff use of the library, the pharmaceutical house librarians may make substantial contributions in the form of suggested reading in forthcoming issues of their house organs or in journals they see which are not ordinarily subscribed to by the academic libraries. Their *Unlisted Drugs* is indeed deserving of a word of praise here; few far-seeing pharmacy school faculty members are not aware of its value as a reference.

Follow-up of library instruction will probably be in the form of one or more of several schemes. Most common is reference work in connection with lecture or laboratory assignments, but to be of any worth these lists need constant reworking by the instructor to keep them up-to-date. Another plan is the invitation of qualified upperclassmen to participate in journal clubs. These groups serve many purposes, not the least of which is the stimulation of systematic reviews of the current literature. A third follow-up is the term report, which is too often prescribed as a matter-of-course and too often accepted from students who have merely quoted sections from the *Encyclopedia Americana*. Instructors must learn to assign term report topics intelligently and to confine the scope of each assignment to bounds permitting the *exhaustion* of the available source material. This control cannot be overemphasized: a conscientious student will strive toward an exhaustive report to which he can see some end; whereas, if he finds himself suddenly surrounded by an ocean of information on a topic that is too broad, he will flounder about for a while and finally turn in a dispirited paper, meaningless because he had no idea where to begin, much less where to stop. With such limitation in mind, sophomore reports might be restricted to a single segment of a topic; juniors and seniors might be assigned more than one phase of a particular problem. It may be worth mentioning the plan of class projects in which each student or committee of students

explores a different fraction of the topic, the whole being put together at the end of the term under the guidance of the instructor. By learning to attack a problem, facet by facet, the students will also learn to build their theses, idea by idea, exhausting each in its own time, secure in the sense of an assignment well done.

Rome was not built in a day, nor can we expect a sudden burst of enthusiasm for ideal library instruction as a result of this paper or of this meeting. If we are inclined to be discouraged by our present sad status, let us look back twenty years. At that time, neither we nor our antecedents would have held this meeting, and a discussion of this topic would have been preposterous! Then let us look ahead twenty years. By that time, I sincerely believe, we can expect to find formal library instruction as a part of the professional pharmacy curriculum. We must cooperate; we must experiment; we must be ready with our answers when the opportunity comes.

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How to Make the Library Function: Teaching the Use of the Library*

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TEACHING the use of the library is a matter of orientation. In the long run the student teaches himself; however, he needs guidance in charting his course. The librarian becomes the teacher and will have to formulate rules for procedure. It goes without saying that she will need a classroom and a scheduled time to meet a large number of students. In addition, there will be many encounters in the library. There is a wide difference between teaching methods in the use of the library and teaching a course in pharmacy with library assignments. Whether the two can be combined or not rests between the choice of the library problem and the manner of orientation. If the assignment merely requests the location of a certain volume on the shelf with a report in long hand of an article which has been indicated, you can say that it will not teach the student to use the library to any great extent. Some may question the necessity of teaching the undergraduate the use of the library at all. The pharmacy graduate is a professional man, who will meet a well-informed public, as well as the physician, the dentist, the biologist, and the veterinarian interested in health problems. He may not have more than a five foot shelf of books, but he should be trained to use them. He should also have some idea about journals and the source of current information. The man who goes on to graduate work will be greatly handicapped without a preformed basic knowledge of library procedure. His first assignment as an applicant for a degree may well be, "Cover the literature in the field in which you are interested to ascertain if the work has been done."

It is possible to initiate the Junior or Senior student into library work with a minimum of two hours in the classroom and a semester's work in actual practice in the library. This shortened course does not teach all pharmaceutical literature as we know it, but it does prepare him for the next step following graduation. The pharmaceutical curriculum is crowded, and time is at a premium. It is my contention that three hours of library practice per week per student for the semester is enough, and might be divided between two or three subject courses.

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 16, 1953.

A subject bibliography with annotations does not help at this point; however, a list of abstracting and indexing journals in pharmacy and in bordering fields should be provided. It is best not to teach librarianship but to run along with the science of pharmacy, instruction about the library.

Of course your library should be in order. Books and journals should be cataloged and should be found in their proper places; subject headings which have been used should be valid; restrictions on books easily understood; rules for loaning definite and generous.

For the beginner I have found the subject, manufacturing pharmacy, the most interesting as a vehicle for search projects. It furnishes a variety of topics such as ointments, emulsifying agents, suspending agents, antibiotics, or essential oils. The search for this material lends itself to a complete survey of the library. It is best to allow a free hand in the choice of a subject by the individual student. Later, if he wishes to change his subject, one can allow that, but the work should be steered toward production of some pharmaceutical preparation. As the first lecture is given, remember that nomenclature is of prime importance. Words, such as *title page*, *volume*, *issue*, *collective index*, *copy*, and *classification symbols*, should be defined. If you find your student frowning over classification symbols, just remember that this is his first attempt at using them and that he is thinking about them in terms of organic chemistry and structural formulae. Therefore, offer classification simply as a key to unlock the catalog, a code. The explanation can come later by means of a typed or printed card placed above the catalog with definite directions as to its use.

As in many other libraries, my Library has a location chart for journals, although they are classified and recorded on the periodical shelf list card. Beginners are required to use the periodical and current shelf lists, and some graduate students, who have missed library training in their undergraduate schools, fail altogether in the use of the periodical shelf list, the card catalog, and the use of indexes. Monographs are not used at once for the beginner, except a dictionary or handbook for clarification of the subject and the choice of terminology. Instead, he is sent directly to the abstracting journal. A manual which is used has a series of columns for keeping volumes, pages, and their respective guides in order. Twenty minutes with direct supervision prepares the student so that he can proceed on his own initiative. The librarian is available for the ever recurring questions. The end product of this concentrated effort is a series of work-sheets, each showing authority, source, methods, and a résumé in full of the work as found.

What is the best method for teaching the use of a handbook on physical data? I have placed old editions in the laboratory where students are working with melting points, boiling points, and refractive indices. At some time during the semester, the students are requested in a quiz session to give the author, title, and publisher of the books. For the quiz, no one will know the answer, but

it is almost a certainty that each will go to the volume at his first opportunity and the information will be retained.

I would like to offer a technique which can be used on a series such as Beilstein's *Handbuch der organischen Chemie*. I take exception to the "find something question" which so often does not teach the literature. Instead of sending a student on a wild goose chase for one particular compound, state the assignment thus:

> Using Beilstein's *Handbuch der organischen Chemie*, 4th edition, take any synthetic compound to be found in volume 1 (Band 1); find it also in the subject index (Formel register, Band 29); find volume numbers noted in heavy type and pages in light type; the numbers in brackets signify the first supplement (Erstes Ergänzungswerk). Since the second supplement (Zweites Ergänzungswerk) is not covered by the indexes, use the system number (System Nummer) which runs along the top of each page; find this number in the second supplement. This will lead you to your class of compounds in supplement 2. If you have not found any new derivatives of your compound, proceed to *Chemical Abstracts* 1930 to date. This should be a complete coverage of your compound. Report all original sources in full.

Insist that your students report all title pages from the title page proper. For teaching pharmacological literature I have mimeographed a small manual. This seemed to be the only way to present abstracting services and indexing journals in this field. Here again, the library problem should be stated in such a way that the literature is brought out and not the "pithed rat" for instance. Question 1: "Using *Journal of Pharmacology and Experimental Therapeutics* and *Archiv für experimental Pathologie und Pharmakologie*, find three methods for screening drugs." Here you have introduced two titles. Although you have not asked for a comparison, the student will make one through his volition and the information obtained this way will be retained. Although most students cannot read German, they can read Beilstein with little preparation.

Should one bring the attention of his students to the abstracting journals by placing a list in the catalog under the heading Abstracting Services or by using mimeographed lists? There are many useful abstracting periodicals in related fields, such as refrigeration, foods, veterinary science, and nuclear science, and it is the librarian's job to acquaint the student with these titles.

Pharmaceutical literature covers a wide and varied number of titles, a number of societies, and a long historical past. Library teaching, heretofore, has been carried on with the subject *history of pharmacy* as a medium; however, this does not lend itself readily to any library method. During the past year a method of teaching source material in the course known as Pharmacy Administration was tried. The assignments were made under subjects, such as management and merchandising. The students were given a list of journals which allowed a choice as to subject and journal reference. When it came time to use books, subject headings were given pertaining to economics and business, which the students could choose or discard as they pleased. At no time did this group of students complain or appear disgruntled; indeed, they were interested in the work because it was their own.

The matter of teaching subject headings is a thorny one. Many students have never learned the alphabet; consequently, they cannot handle the alphabeting in the card catalog. I have prepared a small readable booklet covering most of the subject headings in our catalog. (Even I make recourse to the list from time to time and find it useful in setting up a long term project or in completing a form to be used for a large number of students.) A card typed daily and placed above the catalog "Subject Heading for the Day," is helpful in calling attention to subject headings.

Do pharmacy librarians have any claim on teaching? It has been said that "Teaching a science lays its claim for existence on the fact that its discipline is based upon its capacity to be different, or to be separated from all other branches of learning."[1] Teaching about the library lays its claim as an entity on its ability to be logically connected with all branches of science, having a function as a coordinating factor, by assembling facts, and so placing science in a new light.

[1] Urdang, George. The American Institute of the History of Pharmacy. Bull. Hist. Med. 10: 690–700, Dec. 1941.

The History of the Committee on Libraries of the American Association of Colleges of Pharmacy*

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THE Committee on Libraries of the American Association of Colleges of Pharmacy was authorized in 1933 by the Executive Committee of the Association, and Dr. C. O. Lee, Professor of Pharmacy at Purdue University, was appointed its first chairman. Serving with him at that time were Zada M. Cooper, Heber W. Youngken (Sr.), and W. O. Richtman. The supportive personnel necessarily changed during the ensuing years, but Dr. Lee remained chairman of the Committee until 1952; and, while the efforts of all of the people who have served with him are not in any way to be minimized, Dr. Lee must be recognized as the continuing force within the structure of the Committee during the first nineteen years of its existence. If in this report there appears to be too much emphasis placed on his activities, an explanation may be found in the facts of his uninterrupted service and the loan of his file of correspondence in the compilation of much of this material.

The work of the Committee was begun in 1934 with a letter (1) which resulted in a questionnaire, prepared and sent out in March 1935. The questionnaire, accompanied by a letter signed by Dr. Lee, H. W. Youngken, and H. M. Burlage, contained the familiar questions one would expect to find, and covered many phases of pharmacy libraries except, as Dr. A. G. DuMez pointed out, there were no inquiries as to the number of persons employed in the libraries, nor as to whether the books were cataloged, nor by what system. The 1935 report of the Committee summarized and commented on the forty-one replies to the questions received (the number sent out is unknown). The conclusion of the Committee was that "we [pharmaceutical educators] are, with few exceptions, not library conscious to a very serious degree. We need to take this situa-

* Read at the 52nd Annual Meeting, Medical Library Association, Salt Lake City, June 16, 1953.

tion to heart and do something very definitely about it." The report then recommended "that the A. A. C. P. make detailed studies and reports upon the following items concerning pharmacy libraries:

(1) a minimum periodical and journal list,
(2) a minimum list of standard reference books covering the fields of pharmacy, chemistry, materia medica, etc.,
(3) the qualifications of the pharmacy school librarians,
(4) the extent and scope of so-called library courses listed in the catalogs,
(5) the feasibility of effecting exchanges of duplicate library material for the mutual benefit of all the pharmacy libraries."

There followed nearly two decades of work toward the accomplishment of these objectives; occasionally the aims were restated, redefined, or expanded, but this set of aims remained the basis of the activities of the Committee during this period of time.

The most extensive work of the Committee has been concerned with the preparation and publication of lists of selected books and periodicals for reference by pharmacy librarians in making acquisitions and in teaching courses in the use of the library. No fewer than fifteen such lists have been reported: (2)

1935—a list (3) of 217 periodicals assembled from replies to a questionnaire study

1939—a list (4) of 53 periodicals assembled from replies to a second questionnaire study

1940—a mimeographed list (5) of books, widely distributed by Chairman Lee to the colleges of pharmacy

1943—a list (6) of 522 journals in pharmacy and in cognate fields, including abbreviations for each journal

1943—supplement No. 1 (6) to the preceding list, consisting of 22 journals, mostly European

1943—supplement No. 2 (6) to the 1943 journal list, consisting of 40 publications, mostly from Latin America

1944—supplement No. 3 (7) to the 1943 journal list, consisting of 104 additional journals, mostly foreign

1944—a bibliography (8) assembled by Dr. George Urdang and covering the history, ethics, and literature of pharmacy

1944—a bibliography (9) assembled by Dr. E. T. Stuhr and covering materia medica, including pharmacology, pharmacognosy, and toxicology

1945—a bibliography (10) assembled by Dr. E. V. Lynn and covering chemistry

1945—a bibliography (11) assembled by Dr. E. J. Ireland and covering pharmacy

1947—a list (12) of publications sponsored by students in the various colleges of pharmacy, prepared by Dr. Paul Jannke

1949—a list (13) of books and references useful in pharmacy
1950—a list (14) of modern scientific journals useful in pharmacy
1952—a mimeographed list (15) of books and references, distributed at the 1952 meeting of the Association.

From these fifteen lists prepared by the Committee, the following six lists appear to constitute the principal contributions: 1940 mimeographed book list; 1943–1944 lists of journals comprising nearly 700 titles; the four 1944–1945 special bibliographies prepared by Professors Urdang, Stuhr, Ireland, and Lynn; 1949 book list; 1950 list of modern scientific journals; and the 1952 mimeographed book list.

The compilation of these lists was no simple task. The members of the Committee frequently found themselves confronted with problems never before attacked within the profession. In 1936 Dr. Lee tried to find a list of abbreviations for pharmaceutical journals which might already have been made up; finding none, he started to compile one himself. Format, pagination, and other aspects of pharmacy journals (especially commercial) bothered the Committee members, so Dr. Lee wrote to the pharmacy journals, in particular those put out by drug houses, requesting that more attention be paid to such matters as volume numbering and pagination. (1) The result was that some improvement toward clarification and consistency could be seen. Further, a list of pharmacy school papers, bulletins, and journals had never been compiled until this Committee did it in 1947.

Not only did the Committee members grapple with new problems, they frequently rehashed old ones, seeking possible improvement. The lists of journals came in for reworking and enlarging. Early in 1938, the list of journals was sent to the John Crerar Library for editing, but little assistance was received. Dr. Burlage offered to ask Dr. E. J. Crane, editor of *Chemical Abstracts*, to go over it. Dr. Crane graciously inspected it and made valuable suggestions; when he had finished with it, the list was ready for publication.

In the meantime, as the chronology shows, the Committee was at work also on the lists of reference books—with needling from Dr. Lee. (1) Several times the suggestion had been made that a list of historical or rare books in the pharmacy libraries of the country would be desirable, although lists of these works never found their way into the reports of the Committee nor into the literature.

The preliminary questionnaire of 1935 was followed up by another in 1939, inquiring specifically about pharmacy librarians, the teaching of the use of libraries, and budgets for libraries. An outcome of these studies was the 1941 recommendation that the following questions, among others, be studied (1): qualifications of pharmacy school libraries and the kind and extent of library service which schools of pharmacy are now rendering.

Although not a great deal was accomplished with respect to these problems, except through the medium of questionnaires, at least the attention of the pharmaceutical educators was directed toward libraries and librarians. In 1947 the Committee (12) pointed out the privileges of membership in the Medical Library Association open to pharmacy libraries on an institutional basis and to pharmacy librarians on an individual basis. Full recognition was given the problems in 1948, when Dean Arthur H. Uhl, then President of the A. A. C. P., wrote "What About the School Library"? (16) He urged pharmacy libraries to attempt to come up to the standards required for membership in M. L. A., as, indeed, some of them already had. Dean Uhl stated, incidentally, that in hardly any other field of pure or applied science had so much informative material been offered by a volunteer committee, referring to the Committee on Libraries.

With the encouragement for pharmacy librarians to identify themselves with other librarians serving the various professions, more and more pharmacy librarians and libraries sought membership in professional library associations. These affiliations brought about the solution to another problem of long standing. As early as the busy year of 1937, with letters flying back and forth between the members of the Committee, (1) one subject which several members mentioned many times was the need for some sort of scheme whereby libraries might exchange their duplicates. Efforts had been made to devise such a scheme, starting with an inquiry to the Chemical Section of the Special Libraries Association as to how it managed its exchange. An exchange was finally accomplished through membership of the libraries in M. L. A., although there were, and probably still are, those who think the pharmaceutical libraries should have their own medium.

The trend, as indicated in the Committee's 1951 report, has been more and more toward recognition of the librarians' role in the solution of problems involving their libraries and toward cooperation of the Committee on Libraries with pharmacy librarians of the professional library associations. With the influx of pharmacy librarians into M. L. A. and S. L. A., both organizations set up sections to serve the pharmacy interests. The librarians themselves now have groups within which they can function and through which they can make themselves heard. Considering these developments, it may well be that the Committee on Libraries has passed the peak of its necessity; perhaps the time has come for it to move on to the position of an active participant of a board made up of both educators and librarians. Certainly a board so constituted would best be able to act on the problems as they present themselves today.

Judging from Dr. Lee's correspondence file, it would seem that all of the members of the Committee on Libraries served very willingly; and, no matter who did the actual work, they produced the lists and comments that were asked of them. Through the years the aims of the Committee were all accom-

plished to a greater or less degree: to make up lists of American and foreign pharmaceutical journals, classified, and with abbreviations; to make up lists of textbooks, also classified; to make a survey of school publications, and to encourage them; to promote some kind of exchange of periodicals and books; to encourage trade journals and such to be more business-like and professional in their make-up, in the matters of volume and number indication, paging, indices, and such; and to raise the standards of libraries and librarians.

As far as future activities may take us, we can never lose sight of the fact that, starting from scratch, the Committee on Libraries of the American Association of Colleges of Pharmacy has brought us to the present awareness of the libraries as essential elements of the well-run pharmacy school. If the Committee has done nothing more than to make the profession of pharmacy cognizant of the problems of its libraries, its time has been well spent.

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Notes from London

Someone has written that medical libraries should have as few rules as possible and break them all whenever necessary. With this policy—which could of course be applied to libraries of all types—I am in complete agreement. Librarians (or their committees) have not always been so liberal. Some early library rules were quite draconian and seem to have been designed to place every possible obstacle in the way of the reader. A real history of librarianship would have to take much notice of the subject of rules and regulations. Valuable material on this subject turns up from time to time in the form of the ownership labels with Rules pasted inside some ancient volumes. Many interesting examples have come my way lately, the majority dating from about 150 years ago. One almost constant feature of these early rules is that the period for which a book may be borrowed is governed by its format, i.e. an octavo may be kept for say a week, a quarto for a fortnight, and a folio for a month. This suggests that the library patrons of those days actually *read* books—a luxury in which few of their descendants are able to indulge. One is also struck by the really vicious scale of fines exacted on overdue books in those days: threepence or even sixpence a day, when these sums represented real money!

These labels obviously have a value far beyond the light they throw on the history of library administration. In many cases they may be the only extant evidence of the existence of some long defunct library. Some of the most intriguing labels are those of obscure medical societies and book clubs which flourished in small towns and even in isolated country districts in the eighteenth and nineteenth centuries. These labels belong essentially to that class of valuable ephemeral material which is so easily overlooked or ignored. Their presence in old books should always be noted along with the existence of ex-libris and other ownership marks, autograph inscriptions, interesting dedicacations, etc.

* * *

Students of medical language may like to make a note of a short but very useful article entitled "Lingua medica: a study in medical semantics" by Dr. Ffrangcon Roberts in the *British Medical Journal* of June 27, 1953 (p. 1444). This article may serve as a useful complement to the longer study by Dr. George L. Banay which appeared in the BULLETIN in 1948–9. According to Dr. Roberts the principal sources of the medical vocabulary are: the Saxon, Graeco-Roman, Romance, Arabic, and Modern German tongues. He stresses the essential part played by the minor parts of speech in English. As an illustration of their use in keeping words short he cites the passage from I Samuel,

iv. 18: "He fell from the seat backward by the side of the gate, and his neck brake, and he died; for he was an old man and heavy." Dr. Roberts truly says that the simplicity and directness of this passage might serve as a model for a medical witness at an inquest. In describing more complicated matters it is often necessary to use portmanteau words, constructed from classical roots. Dr. Roberts gives as an example *agranulocytosis*: (literally) a state of deficiency of the kind of cells which have granules; here one word of 15 letters does for 12 words having a total of 51 letters. The learned author concludes that "The function of a language is to express men's thoughts elegantly, accurately, and unambiguously. To achieve this end a language must be supple, adaptable, free from pedantry, and prepared to welcome immigrants." There is an interesting note on American usage, and the only topic to escape notice is the very vexed question of eponymous nomenclature. Perhaps Dr. Roberts will give us his views on this at some future date.

* * *

Mr. S. Wood of the Royal College of Surgeon's Library has published in *Medicine Illustrated* (June 1953, p. 500) an amusing account of *The Doctor*, a popular journal of medicine which came out in five volumes between 1832 and 1937. This journal is now very rare; in fact only two complete sets have been located in Britain. It is one of the most interesting of the older popular journals designed, as Mr. Woods says, "to bring medicine to the people."

* * *

The bicentenary of the foundation of the British Museum, which fell on 7th June 1953, was marked by the appearance of several notable accounts of the Museum and of its medical founder, Sir Hans Sloane. Worthy of special mention are Dr. G. de Beer's *Sir Hans Sloane and the British Museum* (London, G. Cumberlege, 1952) and the special bicentenary number of the *British Museum Quarterly*, Vol. XVIII, No. 1. Medical librarians will also be interested in Dr. Charles Singer's note on "Sir Hans Sloane and the British Museum" in the *British Medical Journal* of June 6th, 1953 (p. 1274). This includes an amusing and little-known anecdote concerning Sloane, the composer Handel, a book, and a buttered muffin.

* * *

Sir Robert Hutchison (*British Medical Journal*, March 21st, 1953, p. 671) has a tilt at the prevailing mania for the use of abbreviations and initial letters in medical writing. Mr. Michael Smyth (April 11th, p. 835) supports Sir Robert, and tells a story of the late Russell Howard, a distinguished London Hospital surgeon, who was asked by a student: "What about N.A.B. in this case, Sir"? To which he replied: "I will answer you in your own coinage, N.B.G."

* * *

The new *Catalogue of Engraved Portraits in the Royal College of Physicians of London* is dated 1952 but copies have only recently become available. The

work is based upon a catalogue compiled under the direction of the late Dr. Arnold Chaplin, the well-known medical historian, who was Harveian Librarian of the College for many years. It is this earlier catalogue, copies of which only existed in typescript, that has now been revised by Mr. A. H. Driver, of the National Portrait Gallery, and printed. The College collection of engraved portraits of doctors and scientists comprises some 4,500 items; there are also in the College about 1,000 photographs of medical men. In view of the frequency with which librarians are asked for information on medical iconography this work should prove to be a reference tool of the greatest value. The catalogue is arranged in alphabetical order and the names are followed by the years of birth and death where known and by brief particulars of qualifications and offices. The descriptions of the prints follow the style of the *British Museum Catalogue of Engraved Portraits*, and there is an index of engravers. It is to be hoped that the publication of this catalogue will encourage medical authors to make greater use of the original sources of medical portraits, i.e. the paintings and engravings themselves. One gets very tired of seeing the same old portraits of the great ones of medicine copied from book to book. Apart from the fact that reproductions from existing half-tone blocks convey little idea of the beauty of the originals, there are a great number of variant portraits buried in various collections. The *Catalogue* is obtainable from the College, price £2.

Editorials

GIFTS WITH STRINGS ATTACHED

A Guest Editorial

We are all familiar with an expression used frequently in advertising, especially on the radio: "Send for your free gift." For years the redundancy of the phrase "free gift" filled me with mingled irritation and amusement each time I heard it—until one day I happened to think of it in relation to libraries. Thereupon came the realization that, in the library field at least, there is a distinction between *gift* and *free gift.*

Every librarian with even brief experience is aware of numerous categories of "gifts" which are not free. The common types of problem donors are immediately recognizable to any member of the profession.

There is the Rare Book Bogey type. Mrs. Benefactor calls to say that she has "an old, rare book" to present to the library. She must have the librarian's promise, with acceptance of the book, that it will be displayed in one of the library's exhibit cases "where all the doctors and students can see it." When the librarian, with uneasy suspicion forming, gasps out an expression of gratitude and asks what the rare book is, the answer comes, "It was printed—[dramatic pause]—before this century—1897! Diseases of Infancy . . ." Can the librarian think of a quick answer which will not ruin public relations and at the same time will avoid making the library ridiculous with an 1897 edition of Holt displayed like the crown jewels?

There is the Indian Giver type. Sometimes it is an elderly alumnus in a distant state who gives his student copy of Gray's *Anatomy*, subject to recall; or more often a local organization which insists on bestowing on the library at regular intervals massive bundles of periodicals (some clipped) "with the understanding that we can have certain numbers back if we need them at any time." Since many of the journals will doubtless prove to be unneeded duplicates, how can the librarian express suitable "appreciation" for this sort of donation?

There is the Bookplate Special type. He offers his personal book collection (he is retiring from a large house to a small apartment) with the stipulation that the library will design, provide, and attach to each item in the donation a unique bookplate bearing his name. He will bring some friends to the library later to see the pieces thus marked. Such collections invariably contain some duplicates of the library's stock, innumerable incomplete unbound volumes of old journals, and an uncataloguable assortment of non-significant programs, wedding invitations (members of the profession, of course), and membership certificates. For a few items of value, must the library go into the bookplate business to avoid antagonizing a Lord Bountiful?

There is the Space-Cadet Donor type. Even the Special-Marking Mania cannot compare to this anathema. He wills his book collection to the library on condition that it be kept separate and intact in a special room in perpetuity. If the heirs are friends of some trustee who graciously accepts the bequest (including the conditions), shall the librarian, lacking an extra foot of shelf space anywhere, quietly leave the library field for one untouched by donations?

Even gifts of money—which, unlike periodicals, are still welcome even though old, duplicate, clipped, and unbound!—are sometimes tied with unfavorable strings. If a scientist gives a small library $100 a year which may be spent only on some minute subject subdivision of his interest, while the library needs current periodicals, is the gift a blessing or a frustration?

Librarians are not unappreciative; they welcome suitable "free" gifts to the library and are truly grateful to donors who want to present something of value without particular self-glorification. Librarians also wish at all costs (short of ruining the book collection) to avoid antagonizing individuals who offer gifts with strings attached. This is not easy.

Perhaps a manual of maneuvers should be published to help meet the situation. Whenever possible, the offensive is probably the best course. As soon as a prospective donor mentions a possible gift, leap into the middle of his sentence with some statement like this: "We are always gratified to receive material for the library; there are so many good uses for gifts. [Faster] Anything not needed for our own library goes on exchange to other libraries, or to book centers to help foreign libraries devastated by the war, or to other sources known to medical librarians. [Permit no interruption.] You can be assured that we find a place for everything, and will use your material according to our best judgment."

After a few attempts of this sort, no wonder the librarian sees a halo shining above the head of a library patron who walks in and says, "I have some books and journals that I'll be glad to give to the library if you want them. I'll send them over, if you wish. Keep what you want; give the rest away or throw them out. You know whether they are worth anything and I leave it entirely up to you." Blessed are the givers of "free gifts"!

IDA MARIAN ROBINSON

RESEARCH GRANTS FOR LIBRARIES

The costs of running a library are becoming greater each year. Columbia University, for example, noted that its 1953 library budget was about 40 per cent greater than twice its pre-war budget, yet it felt it was getting about 33 per cent less library service now than in 1939. These facts must be weighed each time a library requests additional funds; if inflation prices libraries out of the consumer's ability to pay, libraries will find themselves being considered ex-

pendable luxuries. Indeed, some people believe that this situation has already been reached in the poorer medical libraries, especially those dependent upon dues or contributions of users. More and more, medical society libraries are having tough financial sledding; more and more, new commercial firms in medicine and pharmacy are questioning whether they can continue to support their company libraries in the style to which they would like them to become accustomed; and university medical libraries are looking here and there in desperation for more library funds.

There is one hitherto unexplored avenue available for funds, however, and that is charging for the services a library gives. This may take one of two forms: the direct charge for direct use, as is done by the John Crerar Library and some others, and the percentage charge for research projects. In the John Crerar Library those wishing bibliographic work done for them, specific questions answered, or patent searches made, can buy those services from the Library for a fee. The New York Academy of Medicine and the Library of Congress use modified plans of a like nature.

Such a scheme is possible only when the library's clientele has no intrinsic right to all the library's services without further cost. It is unthinkable that the university's professor of biochemistry or the firm's director of research should be asked to pay for library services. On the other hand, much research being done today is paid for from grants made by the government, foundations, and outside commercial companies. Most such grants allow for a certain percentage of the funds being used for the purchase of equipment and an additional percentage being used for administrative costs. Would it not be possible for research grants to set aside, in the same way, a certain percentage of their funds for the library? After all, any research being done in the medical sciences today is greatly dependent upon work done previously and recorded in the literature; it is merely insurance to make sure that work is not being repeated needlessly. Good research needs good libraries as underpinning; but giving good library service to research means providing not only books and journals, but also specialists who know their way about the literature. The more research grants an institution has, the more likely it is to put heavy demands upon its library. Under these circumstances, it seems only fair to charge some of these costs directly to the research project requiring the services.

The easiest way to do this would be to set aside a percentage of the research grant for the library—say one half of one per cent. However, if this could not easily be done, it would still be possible for the director of the grant to give the library a sum of money for the purchase of books and journals which it needed, just as he would reimburse the organization for other equipment of a specialized nature which was used. If librarians have not explored this possibility for increasing their funds without bankrupting their institutions, now is the time to act.

Association News

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Mrs. Ramira S. Jobe	3 years
Inez Willoughby	4 years

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Sanford V. Larkey, M.D.

Joint Committee on Library Education of CNLA

Mrs. Eileen R. Cunningham
Mary Louise Marshall, Member-at-large

Joint Committee on Library Work as a Career

Robert B. Austin (as Chairman of Recruitment Subcommittee)

Joint Microcard Committee

Charlotte E. Coffman

Union List of Serials

Kanardy L. Taylor

U. S. Book Exchange

Scott Adams

Council of National Library Associations

Sanford V. Larkey, M.D.
Marion F. Dondale

Joint Committee on the Protection of Cultural and Scientific Resources

Scott Adams

1954 ANNUAL MEETING IN WASHINGTON, D. C.

The 1954 Medical Library Association Annual Meeting will be held in Washington, D. C., from June 15 to 18. The convention headquarters will be at the Hotel Statler, located at 16th and K Streets, Northwest. The Statler is completely air-conditioned and offers ample facilities for working and social sessions.

It is probable that all sessions save two will be held at the Statler. Tentatively scheduled are a half-day session at the new Clinical Center of the National Institutes of Health in nearby Bethesda, and a half-day session at the Coolidge Auditorium of the Library of Congress.

The General Chairman is Lieutenant Colonel Frank B. Rogers, of the Armed Forces Medical Library. Mr. Scott Adams of the National Institutes of Health is Program Chairman, and Mr. Foster Mohrhardt of the Veterans Administration Library Service is Chairman of the Local Arrangements Committee.

CHARTER CERTIFICATION CLOSES APRIL 12, 1954

In accordance with the Association's By-laws and Code for the Training and Certification of Medical Librarians, Charter Certification will be closed on April 12, 1954, and all Certification thereafter will be on the basis of education and experience. Requests for Charter Certification must be postmarked before midnight, April 12, 1954, and should be addressed to Miss E. Louise Williams, Chairman, Subcommittee on Certification, Tulane University Medical School, New Orleans 12, La.

According to the Code:

5. The following types of certificates will be granted and under the following conditions:

a. 1) A Charter Certification may be granted to those who, on the day of the program's adoption have completed five years of professional experience in a medical or allied scientific library (hereinafter designated as a "medical library"). Experience will be judged as professional or non-professional on the basis of the study, *Descriptive List of Professional and Non-Professional Duties in Libraries*, of the American Library Association Board of Personnel Administration as applied to medical libraries by the Committee on Task Analysis of the Medical Library Association.

2) On those who have entered the medical library field within five years prior to the program's adoption a Charter Certification may be conferred subject to the conditions as stated in the preceding paragraph, on completion of the period of five years' experience.

b. Certification at Grades 1, 2 and 3, corresponding to approved levels of medical library training may be conferred by the Committee on Standards for Medical Librarianship on those presenting proper credentials of completion of prescribed training. Grades of training as unanimously approved by the Medical Library Association are:

1) Completion of college and library school training including an approved course of instruction in medical library service.

2) In addition to the completion of training for Grade 1, a term of supervised experience of at least six months in medical libraries approved by the Subcommittee on Internship.

3) Graduate work in library science and in medical and related subject fields, leading to an advanced degree; or, Completion of a two-year course correlating work in library science, medical library work and medical subject work, leading to an advanced degree.

c. Certification may be granted, in exceptional cases, to persons presenting credentials other than those as here specified, by examination given at the discretion of the Subcommittee on Certification on the basis of individual case study.

Further information can be obtained from Miss Williams.

ISSUES OF BULLETIN AVAILABLE

To reduce stock levels of certain issues of the BULLETIN, they are being offered, for a period of six months, at a price of fifty cents each. Place orders with the Treasurer. The issues available are the following:

v. 1, 1911
- ✱1—12
- 2—203
- 3—105
- 4—107

v. 2, 1912–13
- ✱1—106
- 2—95
- 3—87
- 4—95

v. 3, 1913–14
- ✱1—111
- 2—95
- 3—72
- 4—131

v. 4, 1914–15
- ✱1—144
- 2—142
- 3—154
- 4—129

v. 5, 1915–16
- ✱1—60
- 2—54
- 3—89
- 4—67

v. 6, 1916–17
- ✱1—69
- 2—93
- 3—71
- 4—31

v. 7, 1917–18
- ✱1—23
- 2—36
- 3—108
- 4—54

v. 8, 1918–19
- ✱1—71
- 2—79
- 3—77
- 4—69

v. 9, 1919–20
- ✱1—54
- 2—62
- 3—70
- 4—61

v. 10, 1920–21
- ✱1–2—51
- 3—41
- 4—15

v. 11, 1921–22
None

v. 12, 1922–23
- ✱1—55
- 2–4—3

v. 13, 1923–24
None

v. 14, 1924–25
- ✱4—18

v. 15, 1925–26
None

v. 16, 1926–27
None

v. 17, 1928
- ✱1—135
- 2—141
- 3—199
- 4—147

v. 18, 1929
- ✱1–2—190
- 3—184
- 4—116

v. 19, 1930
- ✱1–4—201

v. 20, 1931–32
- ✱1—1
- 2—11

v. 21, 1932–33
- ✱3—23
- 4—1

v. 22, 1934
- ✱1—23
- 2—30
- 3—33

v. 23, 1935
- ✱1—9
- 2—5

v. 24, 1936
- ✱1—21
- 2—9
- 3—23
- 4—18

v. 25, 1937
- None

v. 26, 1938
- ✱1-2—53
- 3—62
- 4—17

v. 27, 1939
- ✱1—18
- 2—38

v. 28, 1940
- ✱1—36
- 2—55
- 3—11

v. 29, 1941
- ✱1—1
- 2—64

v. 30, 1942
- ✱1—11
- 3—26
- 4—23
- 5—27

v. 31, 1943
- ✱1—50
- 2—41

v. 32, 1944
- ✱4—27

v. 33, 1945
- ✱3—54
- 4—3

v. 34, 1946
- ✱1—89
- 2—155
- 3—136
- 4—131

v. 35, 1947
- ✱1—27
- 2—122
- 3—125
- 4—142

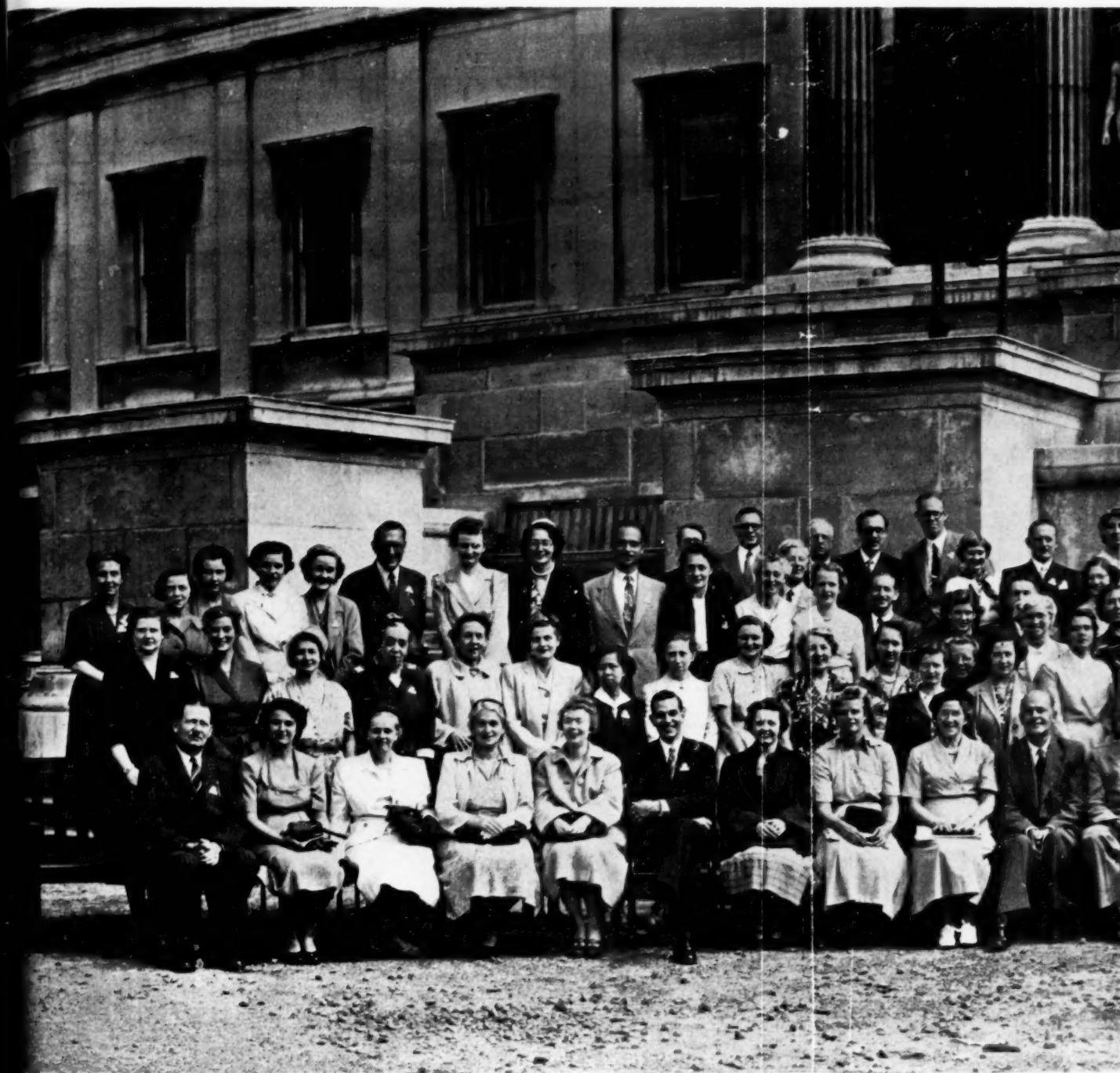
v. 36, 1948
- ✱2—16
- 3—19
- 4—347

v. 37, 1949
- ✱2—66
- 3—213
- 4—232

v. 38, 1950
- ✱1—99
- 2—153
- 3—89
- 4—202

v. 39, 1951
- ✱1—54
- 2—49
- 3—51
- 4—105

v. 40, 1952
- ✱2—11
- 3—30
- 4—31



First International Congress of Medical Librarianship, London, July 20–25, 1953

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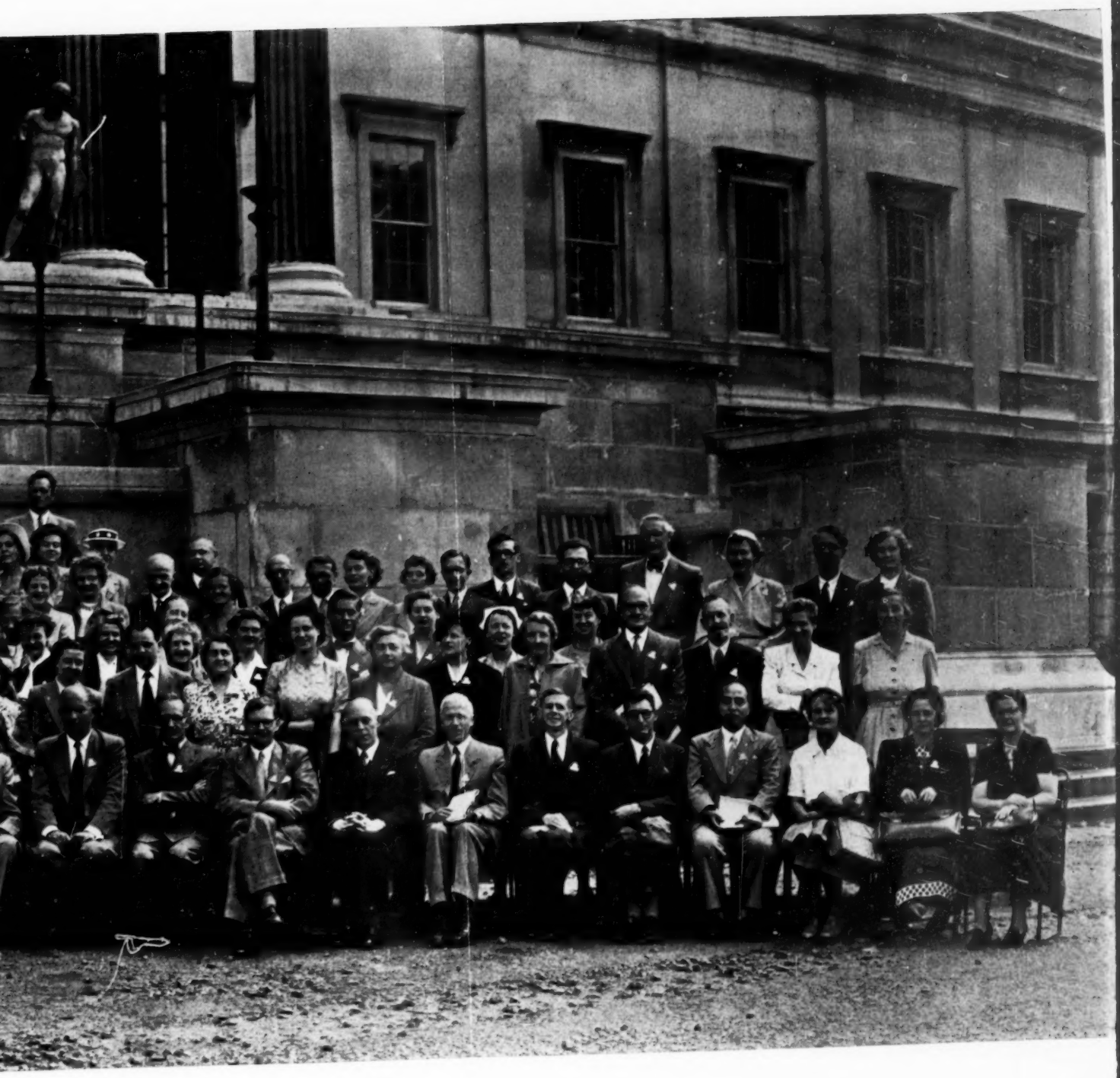

News Items

FIRST INTERNATIONAL CONGRESS ON MEDICAL LIBRARIANSHIP HELD JULY 20–25, 1953

Over 300 people from 32 countries gathered in London, July 20–25, 1953, at the First International Congress on Medical Librarianship. Under the Honorary Presidency of Sir Cecil Wakeley, President of the Royal College of Surgeons, the Organizing Committee, consisting of Mr. W. R. Le Fanu, Librarian of the Royal College of Surgeons, Mr. W. J. Bishop, Librarian and Mr. F. N. Poynter, Deputy Librarian of the Wellcome Historical Medical Library, Mr. C. C. Barnard, of the London School of Tropical Medicine and Hygiene, and others, the meeting was a great success. The official languages were English and French, though occasionally Spanish or German was used. Besides the many excellent papers, which will be published in a forthcoming issue of *Libri*, the Congress was honored by receptions at the Royal College of Physicians, the Royal College of Surgeons, the Worshipful Society of Apothecaries, the British Medical Association, the Society of Obstetricians and Gynecologists, the Ciba Foundation, ASLIB, the British Medical Association, and others.

Papers were read on the role of the medical librarian in the modern world, education for medical librarians, medical library classification schemes, the history of medicine, and medical bibliography. There were a number of exhibits, including one on medical periodicals from all over the world (prepared by Mr. L. T. Morton of the British Medical Association) and one on the services of the Armed Forces Medical Library; the latter was opened in a ceremony by the Military Attaché to the American Ambassador to the United Kingdom.

A steering committee to plan for the next such Congress and to consider further international cooperation was elected. It consists of: Dr. J. Anker, Denmark; Mr. W. J. Bishop, United Kingdom; Dr. S. A. Chitale, India; Mrs. E. R. Cunningham, U. S. A.; Dr. R. Eriksson, Sweden; Mr. A. Hahn, France; Dr. K. J. Hartmann, Germany; Dr. A. Kessen, Netherlands; and Mr. W. R. Le Fanu, United Kingdom.

NEW CLINICAL CENTER FOR PUBLIC HEALTH SERVICE

The Public Health Service's new Clinical Center at Bethesda, Maryland, was formally dedicated by Mrs. Oveta Culp Hobby, Secretary of the Department of Health, Education, and Welfare on July 2. On July 6 the first patients were received in the 14-story medical research center, which combines specially designed space and equipment for laboratory and clinical investigation with facilities for the care of five hundred patients. The Clinical Center will

strengthen the Public Health Service's efforts to solve the problems of cancer, mental illness, arthritis, heart disease, and other long-term illnesses under research programs conducted by the National Institutes of Health at Bethesda. It will be the new home of the National Institutes of Health Library.

EARLY AMERICAN MEDICINE EXHIBIT IN DENVER

When the American Medical Association Clinical Session was held in Denver last December, the Library of the Denver Medical Society had an exhibit on Early American Medicine in the Scientific Exhibits Section of the Session. It consisted of pictures of prominent American physicians, instruments, books, and periodicals of the colonial era. Barbara Hurley, Librarian of the Denver Medical Society was the exhibitor; she was assisted by Maxine Beaton, Librarian of the Presbyterian Hospital in Denver.

JOINT COMMITTEE ON LIBRARY EDUCATION (CNLA)

The Joint Committee on Library Education of the Council of National Library Associations met at the International House, University of Chicago, on April 4th. Representatives of eight library associations, five members at large, and four observers were present. Mrs. Eileen R. Cunningham and Miss Mary Louise Marshall attended.

MEDICAL EDITORS MEETING

Following the Seventh General Assembly of the World Medical Association at The Hague, Netherlands, a meeting of the medical editors of the world was held on September 7th. Dr. A. Plichet of *La Presse Médicale* was Chairman and Dr. H. Clegg of the *British Medical Journal* was Secretary. The program included papers on: obituaries as contemporary medical history, function of a general medical journal, medical documentation, responsibility of the author and editor in preparing manuscript for the press, and relations between the medical and the nonmedical press.

CHANGES AT WILLIAMS & WILKINS COMPANY

After eleven years as President of The Williams & Wilkins Company, Mr. Robert S. Gill resigned. He became Chairman of the Board and was succeeded by Mr. E. F. Williams. Mr. Edward M. Passano is Executive Vice-President and Mr. V. Robert Edwards, Director of Sales and Advertising.

COLONEL ROBERT BENFORD TO EDIT *ARMED FORCES MEDICAL JOURNAL*

Appointment of Colonel Robert J. Benford, MC, USAF as editor of the *U. S. Armed Forces Medical Journal*, was announced by Dr. Melvin A. Casberg, Assistant to the Secretary of Defense (Health and Medical).

Colonel Benford, who relieved Colonel Wayne G. Brandstadt, MC, USA, on July 1, is the first officer of the Air Force Medical Service to serve as an editor of the *Journal*. He is a native of Omaha, Nebraska, a graduate of Creighton University and the University of Nebraska College of Medicine, and was formerly on the staff of the *Omaha World-Herald*.

A member of the advisory boards of the *Journal of Aviation Medicine* and the *Military Surgeon*, Colonel Benford recently was appointed to the editorial committee on physiologic problems of the Institute of the Aeronautical Sciences and has been associate editor of the *Armed Forces Medical Journal* since 1951.

MISS EDITH JOANNES HONORED

Miss Edith Joannes, Associate Librarian at Abbott Laboratories, North Chicago, Illinois, was presented with a scroll in recognition of thirty years of service to the company on March 26 at the annual Abbott Research, Development, and Control Dinner.

Miss Joannes joined Abbott in July 3, 1923, as Assistant and became Librarian in 1925. She has contributed numerous articles to professional library periodicals and has been active in library associations. She is a member of the American Library Association, Special Libraries Association, and the Medical Library Association.

The text of the scroll follows: "In recognition of thirty years of notable service to our library during which, largely through your leadership, it has become a model for institutions of its kind. You built up our splendid reference collection and created unique means for its prompt and effective use. With foresight and care, you have preserved and made available the historical material of our company and its founder. To the solution of our library problems you brought imagination, diligence and consummate skill. Your resolute devotion to duty as well as your unselfish and urbane transfer of leadership are noteworthy. With unfailing kindness to the bewildered and expertness in aiding the experienced you have contributed immeasurably to our progress. You have earned an enduring position as an esteemed colleague and valued associate among professional librarians and in the hearts of all of us."

CIVIL SERVICE EXAMINATION

The United States Civil Service Commission has announced a new examination for Librarian for filling positions in various Federal agencies in Washington, D. C., and vicinity. The salary is $3,410 a year. A written test will be given and appropriate education or experience is required.

Full information and application forms may be secured at most first- and second-class post offices, or from the United States Civil Service Commission,

Washington 25, D. C. Applications will be accepted in the Commission's office in Washington until further notice.

A NEW BIBLIOGRAPHY

Out of the Soviet Zone of Germany has come *Neuerscheinungen wissenschaftlicher Literatur aus den Ländern der Volksdemokratie, Albanien, Bulgarien, Polen, Rumänien, Tschechoslowakische Republik, Ungarn, und der Volksrepublik China*, a fortnightly list of current publications begun in October 1951. Published by the Zentralstelle für wissenschaftliche Literatur (Unter den Linden, 8), it represents, we may suppose, an attempt to put the stamp of unity on the scientific activity of the Soviet-dominated bloc.

In its general aspect and design, *Neuerscheinungen* strikingly resembles the *Deutsche Nationalbibliographie*, the *Oesterreichische Bibliographie*, and the *Bibliographie der Deutschen Bibliothek*, Frankfurt. It has approximately the same format size (21 x 15 cm.) and it also groups its items under numbered subject headings. But of the latter it has 34 (instead of 23 or 24) and coalesces them into four main areas: I social science, II inorganic science, III organic science, and IV technics.

All titles are given in the original language except for those in Bulgarian, which are transliterated, and each is followed by a German translation. Except for a few journals with titles in occidental languages, Chinese items are not included.

Three consecutive issues appearing in January and February 1952 are given over to journal titles, listing in turn the journals of 1) Poland, 2) Czechoslovakia, and 3) Albania, Bulgaria, China, Rumania, and Hungary.

Neuerscheinungen acknowledges five national bibliographies (representing all the countries save Albania and China) as sources of its citations. Thus it can hardly be more productive of book and serial prospects than these national bibliographies, but the advantages it offers in the form of German translations and combined listing are sufficiently great to give it working priority.

ARMY MEDICAL LIBRARY CLASSIFICATION REVISION FOR 19TH CENTURY IMPRINTS

The Armed Forces Medical Library has adopted a revised scheme for the classification of 19th century imprints. In the scheme previously used about 870 selected classes of the regular classification were used for 19th century publications; under the new scheme about 150 classes are used, with class numbers so modified as to provide that they will fall in an entirely separate section of the shelflist. The new plan has been issued as *Army Medical Library Classification, Additions and Changes, List* no. 3. Copies have been sent to those who requested

previous lists. Requests for additional copies should be addressed to the Catalog Division, Armed Forces Medical Library, Washington, 25, D. C.

ARMED FORCES MEDICAL LIBRARY CATALOG 1952

Announcement has been made of the publication of the *Armed Forces Medical Library Catalog 1952*, the fifth annual volume issued as a supplement to the *Cumulated Catalog of the Library of Congress Printed Cards*. It is available at the Card Division, Library of Congress, Washington 25, D. C., at $17.50 per copy.

Like the 1951 *Catalog*, the 1952 volume is issued in two parts: Part One *Authors*, and Part Two *Subjects*. Part One includes 14,247 main entries and the two parts together number 813 pages. The scope has been enlarged to include all titles of medical interest regardless of classification. In addition to currently received material, the *Catalog* lists some material recataloged from the old collection—those titles for which no entries are found in the Library of Congress catalogs. Pre-1801 titles and Americana titles through 1820, cataloged at the Armed Forces Medical Library's History of Medicine Division, are not included. Part Two is limited to titles published since 1925, with the following exceptions: 1) important reference and historical materials; 2) biographies and bibliographies; 3) periodicals; 4) congresses; 5) statistical documents; and 6) works about various institutions, such as hospitals, clinics, and the like.

JOURNAL OF CLINICAL AND EXPERIMENTAL HYPNOSIS

The Journal of Clinical and Experimental Hypnosis is a new quarterly research publication which publishes only original research papers dealing with hypnosis in psychology, psychiatry, the medical and dental specialties, and allied areas of science. Articles include clinical and experimental studies, discussions of theory, significant historical and cultural material, and related data.

Dr. Milton V. Kline of Long Island University is its Editor and the Society for Clinical and Experimental Hypnosis its sponsor. The first issue appeared in January 1953. It is published by the Woodrow Press, Inc., 227 East 45th Street, New York 17, at $6.00 per year.

ANNUAL REVIEW OF HYPNOSIS LITERATURE

The *Annual Review of Hypnosis Literature*, Volumes I and II combined, a publication of the Society for Clinical and Experimental Hypnosis, presents an integrated survey of clinical and experimental hypnosis in psychology, psychiatry, and the medical specialties, 1950 and 1951. Volume I is a reprinting of Volume I first published in 1950. All reviews are detailed and comprehensive, with the original authors doing many of their own reviews. A combined subject and author index for both volumes are provided as well as a bibliography of all

known hypnosis papers published or abstracted during the years covered by the *Reviews*. It is published by the Woodrow Press, Inc., 227 East 45th Street, New York 17, for $2.50.

THE CRIPPLED CHILD MAGAZINE CHANGES ITS CONTENTS

Announcement was made by the National Society for Crippled Children and Adults that *The Crippled Child Magazine* will be directed toward parents of crippled children as its new reading audience instead of as formerly the professional workers of the handicapped. A recent analysis indicated the need for a magazine to help these parents with their many problems.

CHANGES IN *NEW SERIAL TITLES*

The Joint Committee on the *Union List of Serials*, in agreement with the Library of Congress, decided to make certain changes in the scope and the cumulative pattern of *New Serial Titles* at a meeting of the Committee at the Library of Congress on April 24. Mr. Wyllis E. Wright, the chairman, presided over the meeting, which was attended by representatives of seven library associations, the Bibliographical Society of America, the National Research Council, and the Library of Congress.

Contributing libraries will henceforth report to *New Serial Titles* only their holdings of titles which began publication after December 31, 1949, the closing date of the forthcoming *Second Supplement* to the *Union List of Serials*. These titles are to be reported regardless of the date they were first received. The Library of Congress will continue to report its holdings of any titles new to the *Union List of Serials* and its supplements, regardless of the beginning date of publication. Beginning with the May 1953 issue, *NST* is to be published in twelve noncumulative monthly issues, each containing information which conforms to the new definition of its scope.

Other proposals discussed by the Committee, which are now under study, are: (1) To divide the responsibility for maintaining complete files and for reporting major bibliographical changes in publications among the participating libraries in such a way that only two libraries would have this responsibility for any one publication; (2) to issue a supplemental listing of mergers and discontinuances of serial publications; and (3) to issue a January–June cumulation in addition to the regular monthly issue for June.

The Library of Congress will issue revised instructions on reporting to libraries participating in this union list publication. Inquiries of an editorial nature should be addressed to the Editor, *New Serial Titles*, Serial Record Division, Library of Congress, Washington 25, D. C. Subscriptions to *New Serial Titles* are $40 a year for the monthly issues and the bound annual cumulation or $25 for the annual volume only. Orders should be placed with the Card Division, Library of Congress.

ADMINISTRATIVE CHANGE AT LIBRARY OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Mr. Elliott H. Morse, formerly Administrative Associate Librarian, was appointed Librarian of the College of Physicians of Philadelphia, effective June 1, 1953.

Dr. W. B. McDaniel, 2d, formerly the Librarian, as Curator of the Library's Historical Collections, will devote his entire time (aside from editing the College's *Transactions & Studies*) to developing the historical aspects of the Library's services.

PERSONNEL CHANGES AT UNIVERSITY OF KANSAS

On July 1, 1953, Miss Opal Woodruff retired as Librarian of the University of Kansas Medical Center, a position which she had held since 1922.

Her successor is Mr. G. S. T. Cavanagh, formerly of the Brooklyn Public Library staff. Mr. Cavanagh is a graduate of the University of Manitoba and of McGill University Library School. He was Films and Publications Librarian in the Canadian Army, and later became Acquisitions Librarian of the Medical Library of McGill University. He was also associated with the Osler Library for a time. In the summer of 1951 Mr. Cavanagh visited England to inspect medical libraries and meet medical bookmen.

PERSONAL NOTES

Miss Estelle Brodman, Assistant Librarian for Reference Services, Armed Forces Medical Library, and Editor of the BULLETIN, was awarded the Ph.D. degree in June by the Faculties of Political Science, Philosophy, and Pure Science of Columbia University. She worked in the fields of history of medicine and medical bibliography under Dr. Austin Evans, Mr. Thomas P. Fleming, Miss Margaret Hutchins, Dr. Fred A. Mettler, Dr. Maurice Tauber, and Dr. Lynn Thorndike. Her doctoral dissertation to be published by the Association is on the Development of Medical Bibliography. Miss Brodman is the only candidate to receive her degree under the short-lived plan for doctoral candidates working under the Joint Graduate Faculties of Columbia University; later students will receive a Doctor of Library Science degree from the School of Library Service.

Dr. Ilse Bry became librarian in charge of the Neuropsychiatric Library at New York University-Bellevue Medical Center in September. She was formerly with the New York Psychoanalytic Institute.

Mrs. Dorothy Collins, formerly medical librarian of the Veterans Administration Hospital in Denver, resigned there the first of the year. The position was filled by *Miss Kaye Mayer*, formerly with VA, Denison Library, and the University of Colorado School of Medicine.

Miss Caroline Riechers was married to Dr. O. F. Kampmeier on April 25, 1953.

Herbert S. Samuels, formerly medical librarian of the Veterans Administration Hospital in Battle Creek, Michigan, has been appointed Chief Librarian, VA Hospital, Chillicothe, Ohio.

Dr. Dorothy M. Schullian, Armed Forces Medical Library, History of Medicine Division in Cleveland, received a Fulbright award for study in Italy. She left for Rome in August and expects to be gone one year.

OBITUARY

Mrs. L. Mabel Grant

Mrs. L. Mabel Grant, librarian emeritus of the Guthrie Clinic Library of the Robert Packer Hospital, Sayre, Pennsylvania, passed away on June 15th at the home of her son in Binghamton, New York. For the twenty-two years of her incumbency, Mrs. Grant had been faithful in her attendance at the meetings of the Association; during the last few years ill health made it impossible for her to travel.

Book Reviews and Journal Notes

MORTON, LESLIE T. *How to Use a Medical Library; A Guide for Practitioners, Research Workers and Students.* 2d ed. London, Heinemann, 1952. vii, 44 p. 5s.

Here one finds a direct approach to the bibliographic methods and sources which make it possible to use a medical library intelligently. The introduction and simple explanation of the general arrangement of a medical library orient the reader to his surroundings. He is then introduced to the chief bibliographic sources: periodical indexes, the outstanding library catalogs, abstracting journals, monographic review series, and famous subject bibliographies of the 18th and 19th centuries. A chapter on the advantages of interloans is followed by one on ways and means of compiling medical bibliographies. Additional information on the library card catalog, the development of medical periodicals, abstracting services, and the medical libraries in Great Britain rounds out this compact little guide. Written for the British user, it will serve, equally well, any one interested in medical bibliography research.

M. IRENE JONES

U. S. ARMED FORCES MEDICAL LIBRARY. *Annual Report for the Calendar Year Ending 31 December 1952.* Washingon, D. C., 1953. 64 p. 12 appendices. Free.

The annual report of our National Medical Library is always awaited with interest and even friendly concern by the many, both here and abroad, who look to this Library for help of many kinds and who know something of the difficulties under which it operates. These include, as is well known, wretchedly inadequate housing and a number of the commoner ills that governmental flesh is proverbially heir to.

Though the housing problem, in its fundamental aspects, remains one urgently needing legislative action, basically as a matter of protection of a priceless national asset, it is encouraging to note that, in the year under review, some amelioration of working conditions was obtained through staff ingenuity and coöperation, and through the coöperation of other governmental services. Despite this, there is still, evidently and unfortunately, insufficient reason for retiring the "bucket brigade" to inactive status.

This report follows its immediate predecessors in assigning separate chapters to the various Divisions of the Library: Acquisitions; Catalog; Reference Services; History of Medicine; Current List of Medical Literature; Index-Catalogue; Administrative. Though anonymity rules, the Division Heads appear to be speaking in their respective voices—always with a warm sense of teamplay, but occasionally with something in the nature of staff-meeting candor. It becomes

quite clear from these reports, and from the existence of nine staff committees devoted to specific library problems, that the Director puts a high value on brain-picking—and that he obtains a lucrative return therefrom, the cerebral weight of the staff being obviously in an excess-tax category.

Twelve appendices record the operational statistics. Acquisitions, on total, were fewer than in the preceding year. A number of the other Divisions show corresponding statistical declines. A clearly marked exception is the Division which most directly brings the Library to the public, that of Reference Services. Though many other libraries are reporting a lessening of the public's demands on them, the AFML is able to show a very satisfactory increase in loans—notably to governmental libraries—and a striking increase in the use of the photoduplication services. In addition, the number of readers increased by approximately one thousand.

Running through the reports like two themes-with-variations are references to the expenditure, in Division after Division, of time and effort on the planning and carrying through of physical changes necessitated by the building's inadequacy; and on the study of new technical procedures that might be more efficient and economical than the old ones. The references appear to be quite spontaneous and, of course, help to document the lowered statistical output. The time and effort appear to have been given quite cheerfully. Nevertheless, requiring highly trained specialist personnel to devote so much time and effort to providing themselves with a barely functional environment seems to be a rather dubious manifestation of governmental economy.

Again, there is every reason why a governmental, as any, library should be alert to possible improvements in its technical procedures; every reason why the world's leading medical Library should serve to some extent as an experimental laboratory. But when experimentation is largely dictated by, and is surcharged with tensions arising from, a struggle to make both ends meet, the question of relative values automatically comes up. Under some circumstances, time spent in the alchemical laboratory, seeking new operational economies, may not be time most economically spent. It is much to be hoped that eventually governmental support of the Library may be sufficient to allow its experimentation to be carried on without fateful implications—and without any possible prejudice to its fundamental operations.

Only one, minor, discrepancy was noted. In the report of the Administrative Division, p. 61, it is stated that the position of Head, Mail and Records Section, has been superseded by the new position of Records Administrator, whereas the list of officers, p. 5, does not embody the change.

Presumably Army Regulations, or native modesty, prevented the Library's Director—the captain of this lively and talented team—from also describing the orders, the plays, the accomplishments and reverses, the hopes for the future, from his own vantage point. His words would have been welcome, as demonstrating more tangibly the ultimate sources of the increasing ability of

the great Library to master some of its difficult problems. But it would be folly to pretend that the excellences of the Director and his staff are capable of mastering the Library's most pressing needs, a new and adequate building, and sufficient funds to enable the Library to function at the level its unique resources indicate. These are matters calling for action on the part of a quite different group of citizens—all the rest of us.

W. B. McDaniel, 2d, Ph.D.

National League of Nursing Education. Division of Nursing Education. *Guide for the Development of Libraries in Schools of Nursing;* prepared by the Committee on Guides for the Development of Libraries in Schools of Nursing N. Y., 1952. 13 leaves $.30.

This *Guide* presents in a well-organized manner the basic principles for the proper functioning of a school of nursing library. The book collection, library services to be rendered, library administration, equipment, and materials are the topics covered by a group of librarians well qualified to make recommendations. The purpose of the *Guide* as set forth by the Committee is to serve as a "checklist for schools to use in evaluating their present library services or in developing them further."

The selection, arrangement, and maintenance of the book collection are discussed briefly. Under Technical Library Services, the section on Public Relations is good: the cooperation of faculty and library is stressed, as is also the orientation of faculty and students to the school library. Suggestions for the cataloging, indexing, and recording of library material are presented, but not in detail. The ideal physical requirements of a library are given, which will present a goal for many libraries. Qualifications and duties of librarian and clerical personnel are outlined according to recommendations of the Committee on Standards for Hospital Libraries of the American Library Association, the Special Libraries Association, and the Medical Library Association.

The Committee has achieved its purpose in the *Guide,* which seems to be the most specific reference of its kind. Libraries in the process of organization will find it of great help; libraries established will find it useful as a checklist. A helpful bibliography is included. Simone C. Hurst

Kessen, A. H. M. C. *Medische Bibliotheken; Ein Inleiding en Aansporing.* Bibliotheekleven 38: 73–81, Mar. 1953.

This is an introductory lecture given at the meeting of the Section on scientific libraries held at Gouda, October 24, 1952. The author gives several examples of questions which can be answered by good medical libraries having access to modern documentary methods, and then tries to show how the methods evolved. The main emphasis of the talk is on the history of medical libraries in the Western World.

The first medical libraries in Europe after the fall of the Roman Empire can

be traced back as far as the 6th century A.D., in the monastery of Vivarium in southern Italy, although collections of medical manuscripts in the Near East and African countries before the Christian era far outshone the later Western collections. Many monasteries, following the lead of Vivarium, established small collections of medical works, as did the medical schools of Salerno, Paris, Montpellier, and Vienna. That medical works were in high esteem is shown by the numbers of medical manuscripts (about 850, according to Kessen, though other figures are given by different writers) which were printed in the incunabula period. Private libraries were also important in the early history of medical literature; but beginning with the 17th and 18th centuries, more attention was given to public medical libraries connected with schools, medical societies, and hospitals; and even today most medical libraries fall into these classes.

Dr. Kessen pays tribute to the British as the European people who have done most with their medical libraries and have always been in the forefront of attempts to unite medical librarians—from the date of the founding of the British Medical Library Association in 1908 to the organization of the First International Congress on Medical Librarianship in 1953. A description of some of the British medical libraries is given.

The country which has had the greatest medical library activity in the past few years, according to Dr. Kessen, is the United States, and a short historical account of some of the American libraries is presented. Even more important than the size and spaciousness of the American libraries, however, are their attempts to provide adequate documentation for medical literature. The *Index-Catalogue* is, of course, mentioned to be praised.

As is natural, the article concludes with a description of the medical libraries in the Netherlands. The work of Dr. F. P. Koumans, of the Gemeentelijke Medische en Pharmaceutische Bibliotheek at the Hague, on building up centralized documentation tools, such as union catalogs, is especially mentioned. The author hopes that Dr. Koumans will take the lead in organizing an association of medical libraries where all those interested in the best methods and the future growth of medical libraries can come together for discussions.

ESTELLE BRODMAN, PH.D.

COLLEGE OF PHYSICIANS OF PHILADELPHIA. LIBRARY. *Annual report, 1 November 1951–31 October 1952.* [Philadelphia, 1953] p. 129–143. (Reprinted from Transactions & Studies of the College of Physicians of Philadelphia. 4 ser., v. 20, no. 4, Apr. 1953)

This report is divided into three sections. The first is from the hand of the newly appointed Librarian, Mr. Morse, who discusses the role of the medical society library, especially that type of library which maintains basic research collections, and the financial plight of such a library under presently prevailing conditions. Although Mr. Morse makes his points with some eloquence, it

seems to me that the alleged differences between the "free" and the "captive" medical library are more apparent than real, and that difficulties of financial support vary in degree rather than in kind.

In a second section, the newly designated Curator of the Library's Historical Collections, Dr. McDaniel, describes a handful of notable older acquisitions. Most interesting is a discussion of the "first American edition" (Cincinnati, 1844) of James Hope's *Principles and Illustrations of Pathology and Anatomy.* This is the kind of a puzzle which one might expect would get Dr. McDaniel's special attention; it gets it, and we are told about the book in a style which is at once clear, direct, and amiable.

The third part provides a statistical summary of acquisitions, cataloging, and reference use. The breakdown of current periodicals received by geographical area of origin provides useful information not readily or frequently found elsewhere.

One special difficulty of writing annual reports stems from varied calculations as to the nature of the audience addressed. There is the primary audience, the institution responsible for the library, and the secondary audience, presumably all others interested in medical library affairs. The same facts and observations will interest both audiences, but often in inverse proportions. Although the secondary audience, of which the reviewer is a member, might wish for treatment of actual library operations in greater detail than is furnished by this particular report, one can only applaud the continuing tradition of publication of this kind of information whereby all may read and benefit.

FRANK B. ROGERS, MC, U.S.A.

Three Vesalian Essays to accompany the Icones Anatomicae of 1934. By the late SAMUEL W. LAMBERT, WILLY WIEGAND, AND WILLIAM M. IVINS, JR. N. Y., Macmillan, 1952. 128 p. illus. $6.00. (New York Academy of Medicine. History of Medicine Series, no. 11)

Vesalius' *Icones Anatomicae* of 1934, it will be remembered, were published some twenty years ago by the New York Academy of Medicine and the University of Munich, mainly from the original 16th century woodblocks. How these came to be discovered in an attic of the Munich University Library and in Louvain, and were turned over to Dr. Willy Wiegand of the Bremer Presse, is a fascinating part of this volume. But there is much more than that in this very important book which deserves to be studied carefully by a much wider audience than the title suggests.

The most obvious readership for a book of this nature will be found in the relatively narrow area where the history of medicine and the history of art overlap. But the reader will soon discover that there is more art here than a medical man is normally prepared for and more medicine than even the well-informed art lover would be likely to bargain for. This book is not for the

specialist. It has something to say to a much broader audience, to anyone who is concerned with the fate of culture in the twentieth century.

This is something not immediately apparent to the reader, but a growing realization as one approaches the end of the volume. The late Dr. Lambert's essay, for instance, which forms the opening parts of the book, is an interesting example of what specialized knowledge does to a person's ability to see. Dr. Lambert has taken the trouble to look at the pictorialized initial letters in the first and second editions of the *Fabrica* with greater curiosity and greater medical experience than perhaps any other twentieth century person. He has, therefore, been able to give interpretations of what goes on between the lines of these letters, to point out documentary substance which lies beyond any layman's experience. Chances are that his readings of these little scenes were accurate. But one has to take his word for it. There are certain things which he did not see and did not attempt to interpret: the difference of style between the two sets of initials and the subtle but significant difference of narrative technique. He also did not venture a real explanation why the Renaissance artist would show us plump little cherubs performing surgical operations or snatching corpses from the gallows.

Dr. Wiegand's essay, by contrast, will be of greater interest to the lover of art and printing than to the medical man. He tells the story of how many of the original Vesalius woodblocks were located in Europe in response to Dr. Lambert's inquiries; he tells of their physical condition; why they were so well preserved; why they had been cut originally in such a manner as to permit most beautiful impressions to be printed from them after four centuries. His essay contains also some interesting data on the survival of ancient woodblocks in general and some excellent advice for their care and preservation. There is substantial fare here for the historian and collector of the art of the woodcut and, last but not least, some useful technical advice for the artist working in this medium today.

Nevertheless, it is only in the concluding and most substantial essay in this volume, that the greater significance of these Vesalian studies becomes a convincing reality. Nor is this significance at once apparent. The most obvious meaning of the essay of Mr. William M. Ivins, the former Print Curator of the Metropolitan Museum, is a wholehearted debunking of Vesalius, the scholar, and the elevation into the driver's seat of this enterprise of John Steven of Calcar, the artist. Mr. Ivins launches a passionate attack against exaggerated Vesalian hero worship, showing that as a pioneer anatomist Vesalius was not a lonely figure exploring a wilderness of ignorance, but one of a brave band of frontiersmen who were charting *terra incognita*. He also demonstrates that the particular chart of the human body which Vesalius sent out into the world owed a far greater share to a creative artist working at his side than anyone has hitherto realized.

His arguments in support of his case against Vesalius and against his latter day worshippers and defenders are, on the whole, convincing. They are also brilliantly presented in a devastating combination of courtroom technique —Mr. Ivins once practiced law—and masterful knowledge of the history of art. Perhaps, he overstates his case at times and he is rough on his witnesses. Poor Dr. Singer, for instance, who spent much time on Vesalius, is alternatingly demolished and built up again, as the case requires it. Once, Mr. Ivins hits below the belt when he tries to discredit a witness who wrote in a foreign language, by literally translating idiomatic expressions from the author's native language word by word into English.

Even though the method may be quite irritating at times—"the stout survival of the vituperative methods of Renaissance polemics," to use his own words—Mr. Ivins has gotten at the truth in clarifying the share of the artist and the scholar. But that alone still does not explain what this reviewer believes to be the real importance of his essay.

The unique quality of Mr. Ivins' contribution lies in what he has to say about the fundamentals of scientific illustration. Documentary art was not always what it is today, a highly specialized skill in the hands of a few specialists who are not in very close contact with the main current of contemporary art. In Vesalius' days there was almost perfect unity of purpose and complete public expectancy and acceptance of collaboration between the supreme leaders of scientific thought and of artistic expression. The wide gap today between analytical science and creative art, not only in medicine and the natural sciences, but in the broadest aspects of education and public consciousness is a vital part of the crisis of culture in the 20th century.

These things become very clear in Mr. Ivins' essay. His analysis of the functional and historic roots of scientific illustration is by itself an important scholarly contribution.

But he does not conceive of documentary art as bound by a fixed canon of naturalism and most certainly not as dependent upon academic classicism, as is done invariably by the totalitarian dictator abroad and by many with a conventional mind and a lazy heart here at home. Mr. Ivins has a very alert, personal understanding of the process of factual documention which allows complete freedom of artistic expression.

He points the way to an important and desirable future integration of art and science.

If it were possible for a reviewer to sum up completely the content and implications of an author's work, the book would no longer be worth reading. This review has only touched upon the content and the message of the *Vesalian Essays*, which need to be read in order to be appreciated.

HELLMUTT LEHMANN-HAUPT, PH.D.

PATTERSON, J. T. AND STONE, W. S. *Evolution in the genus Drosophila.* New York, Macmillan, 1952. 610 p. illus. $8.50.

The vast amount of knowledge dealing with Drosophila which has been accumulated in the field of genetics, cytology, and ecology has been critically sorted and arranged in a systematic way in this book. The authors who have dedicated their careers to genetics and the analysis of evolutionary mechanisms present a detailed account of the taxonomy of the genus with an elaborate digest of its ecology and geographical distribution. There are four chapters on the evolutionary effects of genic changes and two chapters on the effects of chromosomal changes. The chapter dealing with the metaphase patterns includes a discussion on the role of such major factors as fusion, translocation, pericentric inversion and changes of heterochromatin. With the exception of the *virilis* species group which is fully presented in Chapter 10, the analyses of inversions in wild populations revealed by the salivary gland technique in various species studied can show the prime importance of chromosomal evolution. The material in the *virilis* chapter can be considered as the best and most beautiful illustration of species relationships so far known in the animal kingdom, particularly the results of the technique of tracing the phylogeny by the inversion markers. Most of the work on the *virilis* group was done under the auspices of the authors and we can see from this review that their devotion has proved the most fruitful one in the field of experimental evolution.

As a whole, this book represents a milestone in the progress of dynamic evolutionary research and should serve as an indispensable reference for students of genetics, evolution and, particularly, for Drosophila specialists. If any criticism is to be made, non-specialists in Drosophila might consider that the group-to-group presentation instead of an over-all discussion makes the book slightly too technical, save the last chapter in which there is a general discussion.

C. M. POMERAT, PH.D.

MASSACHUSETTS GENERAL HOSPITAL. PSYCHIATRIC SERVICE. *Case Histories in Psychosomatic Medicine,* by the staff; ed. by Henry H. W. Miles, Stanley Cobb, Harley Shands. New York, Norton, 1952. x, 306 p. illus. $4.50.

The Massachusetts General Hospital has for many years had a psychiatric department which has been closely coordinated with the other departments of the Hospital. In this volume are presented twenty-one cases of a wide variety of disorders, all of them having psychological factors (as what case does not?). Some of the cases, for instance, are of hysteria, impulsive behavior in a crippled boy, anorexia nervosa, asthma, ulcerative colitis, rheumatoid arthritis, painful myostatic dystonia, barbiturate withdrawal reaction, and essential hypertension. The case is presented; the discussion of psychiatrists, psychologists, and social workers follows; then, comment and follow-up conclude the presentation.

The resistances and practical difficulties are not minimized, nor is the matter of the time and effort involved in the treatment. There is, in other words, no intimation that here we have a new panacea!

Not the least valuable part of the volume are the chapters on some principles and applications of psychosomatic medicine by Dr. Cobb, and on the doctor-patient relationship and its role in therapy, by Dr. Avery W. Weisman. Dr. Cobb emphasizes the fact that psychosomatic medicine is not a new subject and that it is not a specialty, but rather that its essence is the "cooperation of practitioners, surgery, dermatology, etc., with psychiatrists—each doing his part and together helping the patient." He adds, "It is definitely not the taking over of the treatment of medical disorders by the psychiatrist." He would prefer the terms "holistic" or "comprehensive" to "psychosomatic."

Every practitioner of medicine would profit by reading this volume; it is sound, clear, and practical.

WINFRED OVERHOLSER, M.D.

CULBERTSON, JAMES T. AND COWAN, M. CORDELIA. *Living Agents of Disease.* N. Y., Putnam, c1952. ix, 624 p. illus. $5.50.

This book covers a broader field than its title implies, for while it does deal in part with living agents of disease, it is also concerned with the reactions produced in man by these agents, the impact which infectious diseases have upon society, and the impact of society upon these diseases. In taking this comprehensive approach to the problem of human infections, the authors, a well-known microbiologist and a former dean of a school of nursing, respectively, have produced a book which may prove exceedingly interesting to the intelligent layman, as well as to semi-professional personnel in the medical and health fields.

The reaction of man to microbial agents follows in its broad outlines certain well-known patterns; yet each agent (and to a certain extent each human host) is sufficiently individualistic to evoke characteristic reactions which medical men identify as specific diseases. *Living Agents of Disease* is a serious and on the whole successful attempt to present this great segment of knowledge for the reader who himself is not a specialist in this field.

The book is divided into seven "units." In the first unit are presented the main groups of living forms and their relationship to one another, the ways in which living organisms produce disease, and some of the health and social problems for which they are responsible. Next, is given an insight into the nature and characteristics of the different groups of disease agents, such as bacteria, viruses, rickettsia, spirochetes, protozoa, and helminths, and methods used in their study.

In Unit Four is discussed the reaction of the human host to microbial organisms and in Unit Five the many approaches to the control of these disease-

producing agents. Units Six and Seven contain brief accounts of the large number of disease entities encountered in man in various parts of the world.

A novel feature of *Living Agents of Disease* is the informative section dealing with the mechanisms which society has developed in an effort to prevent or minimize the effects of these diseases. For example, there are chapters on the social problems caused by pathogens, the care of the infected host, organizations, both governmental and voluntary, which are engaged in disease prevention, and some of the laws dealing with infectious diseases.

The format is attractive and there are adequate sub-headings. Most of the 71 illustrations are clear and informative. At the end of some chapters are "Questions for Review and Discussion." Some chapters likewise include references, but the selection of these for the purposes of this book could be improved; the value of other chapters would be enhanced by a few selected references for collateral reading. There is a good index.

THOMAS B. TURNER, M.D.

HYNDMAN, OLAN R. *The Origin of Life and the Evolution of Living Things; an Environmental Theory.* N. Y., Philosophical Library, c1952. 648 p. illus. $8.75.

This book is primarily a philosophical treatment of the nature of life and evolution. It is based on other philosophical treatises, on biology textbooks, and on aging classical monographs in biology. As such, it is for the most part a third or fourth derivative of the original observations. It is not tempered by current findings in biology, and indeed, it runs counter to much of the present stream of biological thought.

The main points of Hyndman's theory may be summarized. Initially, "living matter originated as a mechanism of energy transformation . . . under the duress of force." The primordial living substance, the first order of differentiation, is the "germ integer," which partakes in Hyndman's theory of the attributes of viruses and genes and possesses the capacity for self-synthesis. Evolutionary change in the "germ integer" in response to the demands of environmental change consists in the addition of differentiated "accruals" of like nature to the "germ integer." Hyndman feels that a bacterium might be regarded as a very large "germ integer." The cell (i.e., other than a bacterial cell), as the second order of differentiation, would arise as a colony of "germ integers" (genes) surrounded by their common cytoplasmic envelope, which serves as the integrating medium between the "germ integers" and as their adaptive intermediary with the environment. The third order of differentiation would be the multicellular plant or animal, arising, according to Hyndman, as the result of the "grand mutation" to diploidy. Sex would arise as a corollary. Hyndman looks on evolution as a directed, purposeful, straight-line development determined by the environment and mediated by "accruals" to the

"germ integers," not by mutations. He regards mutations as mutilations or reduplications of chromatin units. He can not see how evolution could occur as the result of natural selection picking over a crop of random mutations, in the accepted sense. Rather, Hyndman sees evolution consisting in the purposeful adaptation to environmental change as follows: environmental stimuli cause the development of diffusible agents within the cytoplasm, which in turn stimulate the chromatin (in multicellular organisms, the chromatin of all cells, including those of the germ line) to adaptive genetic change.

The foregoing argument lies far divorced from any experimental substantiation. Nevertheless, it is advanced in a highly categorical manner. Many points of the detailed development of the theory are open to question. For instance, a change is called for in the view that the "germ integer," as the first order of differentiation, could be represented by a virus (with the demonstration of a number of separable genetic units within the bacteriophage) or by bacteria (as Delamater and others find typical mitotic machinery within bacteria, despite Hyndman's view that the centriole is a differentiated "germ integer").

To repeat, the book is a philosophical, not a scientific, work. The reviewer would not recommend that it be given serious consideration by the student of biology.

JOHN J. BIESELE, PH.D.